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RAILWAY MANAGEMENT.

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OBSERVATIONS  
ON  
TWO LETTERS  
TO  
GEORGE CARR GLYN, ESQ., M.P.  
BY  
JOHN WHITEHEAD,  
OF THE STOCK EXCHANGE, LONDON, AND  
MARK HUISH,  
GENERAL MANAGER OF THE LONDON AND NORTH WESTERN RAILWAY.

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BY  
PETER ECKERSLEY,  
COMPTROLLER OF THE LANCASHIRE AND YORKSHIRE RAILWAY,  
MANCHESTER.

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## OBSERVATIONS, &c.

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Ms. A. 5. 2. 3

THE great importance attached at the present time to all questions relating to railway management and expenditure, has invested with more than ordinary interest the recent publication of two letters, on these subjects, to George Carr Glyn, Esq., M.P. ; one by Mr. Whitehead of the Stock Exchange, London, and formerly secretary of the South Eastern Railway ; the other by Captain Huish, the general manager of the London and North Western Railway.

The *Times* having also lent its great influence in calling attention to the principal topic treated of in these letters, will tend greatly to increase the interest of the railway public, in the thorough solution of the questions at issue in this controversy.

Having from my connexion with the Lancashire and Yorkshire Railway Company, as one of its prin-

cial officers, considerable facilities for acquiring correct information on the points in dispute, I have thought that I might contribute some facts, from the experience of the working of this company's traffic, which would be of service in the discussion, and tend to confirm, by the results of another company, the general tendency of the remarks of Captain Huish, as regards the experience of the London and North Western Company.

When I first saw some extracts from Mr. Whitehead's publication, I was greatly surprized that a gentleman of his experience should have treated the question of the relative profitableness of the goods and passenger traffic of the London and North Western Railway, in the manner which he adopts in his letter. To those who are not experienced in such matters his mode of dealing with the subject is sufficiently startling, and calculated to produce, if not conviction, yet a certain amount of belief that something was wrong, which in these times is anything but satisfactory to a railway shareholder. In confirmation of this I may state that I have heard it remarked by several parties, that they thought there was a great deal of truth in the statements of Mr. Whitehead. The publication, however, of Captain Huish's letter, and the observations of the *Times*, will



neutralize in a great measure the effects of such impressions.

In order fully to exhibit the unsatisfactory and fallacious method adopted by Mr. Whitehead, to prove the unprofitableness of the goods traffic, and the great superiority of the passenger traffic as compared with it, a quotation of his own words will be necessary. He remarks that—

“ The London and North Western Railway Company is at the present time carrying goods from London to Manchester at 40s. per ton! The Grand Junction Canal Company are doing the like by Canal, at 30s. per ton! As both undertake to collect and deliver without extra charge, the real fact is, that the Railway charge is 30s. per ton, the Canal 20s. per ton, the difference 10s. being the cost of collection and delivery.

“ The question at issue is this simple one. Is the London and North Western Railway Company making profit or loss by their Merchandise traffic as now conducted?

“ It has been said—and as respects the superior classes of passengers, with great truth—that the Passengers' fares are ill adjusted, and consequently not sufficiently remunerative. Let us

test the question of the Goods charges, by comparing them with the Passenger fares, admitted to be too low.

- “ The express fare from London to Manchester is 42s. 6d. per passenger, each carriage being capable of holding eighteen persons. Total £38 5s.
- “ The Second Class fare from London to Manchester is 25s. per passenger, each carriage being capable of containing thirty-two persons Total £40.
- “ The Third Class fare from London to Manchester is (*via* Birmingham) 16s. 5½d. per passenger, but by that ‘folly of follies,’ the Trent Valley line, 15s. 8d.; say therefore, 15s. 8d., each carriage being capable of carrying thirty-two persons  
Total £25 1s. 4d.
- “ The goods trucks are capable of carrying 3½ tons weight each, taking which as the average at the *actual* railway charge of 30s. per ton, would give per truck\* Total £5 5s.
- “ The contrast, therefore, stands thus:—That a well-filled carriage of first or second class passengers,

\* “ *This 30s. is the average. The Company carry various classes of goods at much lower rates, as other Companies do, and if the contrast had been made on those lower rates, the results would have been much more startling. It would require eight Goods Trucks laden to produce as much as a full Second Class Carriage.*”

none of whom require the carriers' services, at the company's cost, to bring them to, or take them from the stations, produces nearly eight times more than does a fully laden truck of goods, whilst the humble third class parliamentarian, who travels in a vehicle dignified by the name of 'carriage,' at about goods speed, brings to the coffers of the company, with his thirty-one fellow passengers, a sum nearly five times greater than does the well-packed goods truck!

“ The First Class Carriage is capable of

earning.....	.....	£38	5	0
„ Second	ditto ditto	40	0	0
„ Third	ditto ditto	25	1	4
Goods Truck	ditto ditto	5	5	0

“ In other words, one First Class Passenger of true Aldermanic proportions, pays for the conveyance of his twelve stone weight (168lbs.) more than is paid for the carriage of one ton and a third of goods.

“ Three Second Class Passengers, or three and a half cwts., pay as much as do two tons and a half of goods.

“ One robust Parliamentarian of 140lbs. weight stands in the Goods balance as exceeding half a ton.

- “ Again,—if Goods are carried at these rates at a profit,
- “ Two First Class Passengers and one child at half fare are entitled to the luxury of a carriage, in true regal style, to themselves.
- “ Four Second Class Passengers should claim a whole carriage to themselves.
- “ Seven Third Class Passengers in like manner should have a carriage to themselves.
- “ These contrasts place you and your colleagues on the horns of a dilemma from which you must escape as best you can.
- “ EITHER THE GOODS RATES ARE TOO LOW,
- “ OR THE PASSENGER FARES ARE TOO HIGH.
- “ If a truck load of goods can be carried at a profit from Manchester to London for £5. 5s., then £25 for a carriage load of human beings are preposterously exorbitant.”

What I demur to in this mode of treating the question is that the *capability* of productiveness is made the basis of the argument, rather than the practical fact of such productiveness in any given instance. If the enquiry were, is a maximum load of passengers, or a maximum load of goods most profitable, there would be no necessity to argue the question ; but inasmuch

as this is not the case, the mode adopted by Mr. Whitehead of estimating the productiveness of passenger and of goods trains is altogether unsound and fallacious. It would be impossible with any regard whatever to the public convenience, or I may add, with any regard to the interests of the railway itself, to appoint such times of starting trains on the great majority of railways as to ensure a maximum load of passengers, and it is well known that the train must start at the appointed time whether there be only one or one hundred passengers. What then is the proper way of coming to a right conclusion in the matter? Obviously to ascertain the average amount of the earnings of all passenger trains for a sufficient length of time, and the average amount of the earnings of all goods trains for the corresponding period, and then to compare the expenses of the one with the other. It is in this way that I propose to show that there is very little difference in the profitableness of the goods traffic as compared with the passenger traffic of the Lancashire and Yorkshire Railway, (Manchester and Leeds proper,) as conducted in 1847, and granting the accuracy of Mr. Whitehead's statement, that the average receipts of the goods traffic of the London and North Western Railway, (including the collection and delivery of goods) is at the rate of forty shillings

per ton between Manchester and London, the same remark will apply to the traffic of that line.

And first, I must premise, that with regard to the figures which I am about to give, I can vouch for their substantial accuracy, but that in the great complexity of railway accounts, and the difficulty of precisely appropriating every minute item of expense to one description of traffic or to another, it is possible that, were mathematical accuracy practicable in such matters, some slight variation in the results might be arrived at, but not to any extent to affect the position I have laid down, that there is but little difference in the profitableness of the goods traffic as compared with the passenger traffic.

In the early part of the year 1847, the Lancashire and Yorkshire Railway Company became more completely their own carriers than they had previously been, and in referring to the receipts and expenditure of the company for that period, it will be necessary to observe that the whole of the receipts for every service performed by the company over the Manchester and Leeds line proper is included in the amounts given, as well as the whole of the expenditure incurred, including rates and taxes. The total receipts earned by passenger trains in this year amount to £165,764, and the amount earned by the carriage of goods, cattle, &c.

is £185,610. The total expenses connected with the passenger traffic are £58,737, while the expenses connected with the goods traffic are £74,076. Hence, it follows, that the profit on the passenger traffic amounts to £107,027, and the profit on the goods traffic to £111,534. It will thus be seen, without going into more detail, that there is but little foundation, as far as the Lancashire and Yorkshire Railway is concerned, for Mr. Whitehead's statement "*that the losses attendant on the goods trade, as at present conducted, are most uncommonly heavy.*" I will, however, pursue the subject a little more in detail, and in order that there may be no ground for objection, as to the receipts and expenses of goods, as compared with passenger traffic, I will give the mileage of the locomotives employed in the service of the passenger, as well as in that of the goods traffic:—

Miles run by passenger engines...	660,730 miles
Ditto by goods engines.....	711,400 „

I will then state the average expense per mile of every mile run by a locomotive in the service of the passenger, as well as in the service of the goods traffic, and also the average receipts per mile of each: by this mode of showing the results it will be observed, that the expense of every service is included, and that a



train, whether requiring an assistant engine, or being composed of empty carriages, or empty waggons, is included in the general average. As far as I can perceive, there can be no objection to this mode of stating the question, and the results so arrived at must be conclusive.

Average receipts for every mile run by	<i>s.</i>	<i>d.</i>
a passenger engine.....	5	0
Average expense of ditto.....	1	9½
<hr/>		
Profit .....	3	2½
<hr/>		
Average receipts for every mile run by	<i>s.</i>	<i>d.</i>
a goods engine.....	5	2½
Average expense ditto.....	2	1
<hr/>		
Profit .....	3	1½
<hr/>		

From this it must be obvious, that the profits of the goods and passenger traffic is nearly equal on the Lancashire and Yorkshire Railway. I am aware that these results may be varied by the experience of other lines, as much depends on the relative quantity of the various descriptions of articles carried, and the rates charged, as well as upon the regularity and continuous supply of goods traffic; but what struck me on read-

ing Mr. Whitehead's pamphlet was, the statement that the *average* rate for goods carried by the London and North Western Company was 40s. per ton, between Manchester and London, including the expenses connected with the collection and delivery of the goods, and knowing that this was about the average rate of the Lancashire and Yorkshire Railway Company's charges for a similar service, I was at a loss to comprehend how such statements made by Mr. Whitehead as the following could be true, in reference to the London and North Western Company's goods traffic.

“ Loss is written in such glaring letters on the goods, trucks, and cattle conveyances, that the Directors must be more than blind not to see them ; and worse than obstinate to persevere in them, as they are at present conducted.”

“ A considerable portion of the profits derived from passengers cannot fail to be absorbed by the losses which are incurred in the conveyance of goods.”

I have avoided referring in detail to any of the “imaginary” cases put by Mr. Whitehead, as the railway world has been already too much imposed

upon by such statements. I was more desirous to shew by facts, that however much railway directors have to answer for, they have not been guilty of conducting any portion of their business upon such blind and ignorant principles as the assumptions of Mr. Whitehead's pamphlet would imply. I shall also avoid any examination of the estimates of Captain Huish, as to the relative capital employed in engines, carriages, and waggons, &c., in moving a hundred tons of goods and a hundred tons of passengers, by merely referring to the fact that the value of the stock ordinarily required to earn an equal amount of money from goods as from passenger traffic, is pretty nearly the same.

It is not my intention to follow Mr. Whitehead through all the points referring to railway management, to which he alludes; I entirely concur in the remarks of Captain Huish, that railway companies generally contrive to get as high rates as the circumstances of the traffic will permit, and that should any railway company try the experiment of doubling their present rates, as Mr. Whitehead recommends, they would soon find that the great bulk of their traffic would leave them.

With a view, however, of exciting discussion and of calling attention to some points which I think of

importance to the railway interest, I propose to refer to a few of those which are the most prominent ; and first I think that one of the greatest evils with which the railway system is beset is, the principle now adopted of assessing railways to parochial rates. The operation of this principle is becoming a great hardship, as every parish Dogberry is constantly trying his ingenuity to mulct the railway in one shape or another ; and what with this, and the injustice, as it appears to me, of the principle itself, rates are becoming most oppressive and burdensome. It behoves therefore railway companies to make a stand against these encroachments, and to present the case, with their united influence, before the consideration of Parliament. That redress can be had, if the business be earnestly undertaken, I entertain no doubt ; and in proof of this I would refer to the principle of rating adopted in the Health of Towns Act of last Session, in which it is laid down that all assessments of railways under that act must be made at one-fourth their annual value. Independently, however, of this, it may be shown, that the present mode of assessment is in fact an assessment of the *profits of trade*, which is contrary to law. The only mode of assessment which appears to me to be just, is that railways should be assessed for the quantity of

land which they occupy, at the full value of the adjoining land, and that the station houses, warehouses, and other buildings should be assessed upon the same principle as other building property in the township in which they are situate, for it should be borne in mind that railways do not increase the expenditure of a parish nor derive any benefit from such expenditure. The importance of this question may be estimated from the fact that, for only fifty miles of the Manchester and Leeds Railway, the rates are upwards of £12,000 per annum.

Another question which claims the attention of railway directors has recently been the subject of much discussion in the public prints. I allude to the *unnecessary number* of trains which have been run on most lines. When it is considered that one-half the working expenses of a railway is in proportion to the number of miles run by trains, the question assumes a degree of importance which cannot fail to press more strongly on the attention of railway managers, as the necessity for economy becomes urgent. In reducing the number of trains, great attention should be paid to the convenience of the public in the times of their being started. An impression prevails that this should be arranged according to *equal intervals* of time; but this is not always a good rule.

An examination of the number of passengers which have travelled on any given line in the various trains throughout the day for a considerable period, will soon indicate which times of starting are generally most convenient. Another important argument in favour of the reduction of the number of trains will be found in the fact, that a less quantity of stock will be sufficient to work the traffic, and that the stock so set at liberty will be available for the working of branch or extension lines, as they are opened, without the necessity of expending more capital for such purposes. Railway directors need not be too sensitive on this question as regards its unpopularity, as a feeling is becoming very prevalent in the public mind that more work has been done by railway companies than has been adequately remunerated.

In connection with this subject, reference may appropriately be made to the *speed* of trains, which has also recently attracted much attention among railway economists. There can be no dispute that railway shareholders are greatly interested in this question ; but whether we can go back to the old speeds of from *fifteen to twenty-five* miles an hour, may admit of doubt. One thing, however, is sufficiently obvious, that if such could be done, it would cause a considerable saving in working expenses, and in the cost and

duration of the permanent way. The difficulty in all these questions is to go back ; but I am satisfied that if the public were to be charged the difference between the cost of this speed and the *forty* to *fifty* miles per hour speed, *but few would pay the price.* Why then, should railway shareholders make a present of this to the public ?

In reference to the question of railway companies applying to Parliament for power to charge higher rates for passengers and goods, I entertain great doubts as to its policy or necessity. As respects the charges for goods traffic, but few companies charge as much as the law will allow, for all the services which they perform as public carriers ; and in reference to the present rates for passenger traffic, it is a question whether increased rates would not in most cases diminish the number of passengers more than what would be proportioned to the increase in the fares. It should never be forgotten, in the consideration of this subject, that *quantity* is one of the great elements of success in railway traffic ; and I must confess that I have more faith in other modes of increasing the profits of railway shareholders, than in any application to the legislature for increased tariffs. There is nothing, however, in the conditions on which railways have been constructed, which should prevent



Parliament from revising and increasing the tariffs, now in force, should this be found necessary. Railways be it remembered, were commenced, and have been carried out, purely on the principles of private enterprize. The Government, as a Government, would have nothing to do with them ; and if, therefore, any of the conditions upon which they have been established, are found to interfere with that fair return for the capital invested which is due to the founders and supporters of these lasting monuments of British capital and skill, there can be little doubt that Parliament, on a proper application, would grant fresh powers.

In connexion with the subject of the working expenses of railways, it may be desirable to refer to the cost of working branch lines, particularly such as are only a few miles in length. The disadvantages of these lines as generally worked are two fold ; first, the receipts are small, and the expenses disproportionately heavy ; or secondly, the trains are so arranged that one locomotive cannot do the whole work ; in either case it will be found that from the arrangements preventing the locomotive and its staff from being able to perform more than about half a day's work, the cost is very greatly increased. As the system of branch lines becomes extended, I feel persuaded that a great alteration will have to be made in the mode of work-

ing them. Either a lighter description of locomotives, with a cheaper staff, or horse power will have to be resorted to, if *any* profit is to be made from most of these branches.

There are many other points of detail in which there is scope for a reduction of expenditure, in the management of railways, without impairing the efficiency of the service ; but it is unnecessary that I should allude to them more at length. The present times will call these matters more urgently before the attention of managing bodies ; but unless such alterations and reductions as I refer to are carried out with care and judgment, more mischief than good will result.

Hitherto it is to be feared that railway companies have been too much engrossed in Parliamentary and other warfare, to pay that close attention to the prudent management of their internal affairs, which is an indispensable requisite of success. Unfortunately, diplomacy and scheming have been regarded as higher attributes in railway management, than the application of those principles of economy and prudence, which have ever been found the surest means of success in the management of private affairs. To some extent, this may be explained by a reference to the inconsiderate and ruinous manner in which Parliament has dealt with the railway interest.

It must be admitted that the difficulties with which railways have had to contend, have been numerous and severe, and it would be well if they were at an end ; but until some Railway "PEACE CONGRESS" has been established, which shall be able to prevent that ruinous competition for traffic which has existed in some districts, and in others is threatened, I fear that "*calmer future*," to which Captain Huish so eloquently refers, is not so near at hand as we should be led to hope from his letter. There is no doubt but the imprudence of such competition is more generally acknowledged than it used to be, and that it will never be carried to the height that it has been: the shareholders will prevent that.

What then is wanting to restore confidence in railway property? Many are the specifics which have been suggested, but one, I think, may be considered as of primary importance, and that is a more concentrated and consistent system of management to which may be added,—

The making of some arrangement by which the replacement of the moveable stock and the renewal of the permanent way shall be adequately provided for out of revenue.

The closing of the capital accounts at the earliest practicable period.

The appointment by the shareholders of competent and responsible auditors of the company's accounts.

These things being done, there can be little doubt that railway shares would command a much higher market value, even with a somewhat less rate of dividend.

In conclusion, I think it right to state that my present observations are made without being suggested by any party connected with the Lancashire and Yorkshire Company, and that I only am responsible for them. My chief motive in writing has been to disabuse the minds of railway proprietors of any unfavourable impression which may have been made by Mr. Whitehead's pamphlet, and to show, in opposition to his statement, that, at least in one instance, so considerable a portion of their business as the goods traffic has not been conducted at a loss.





# RAILWAY PROPERTY:

ITS CONDITION AND PROSPECTS.

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BY S. SMILES,

SECRETARY TO THE LEEDS AND THIRSK RAILWAY COMPANY.

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# RAILWAY PROPERTY,

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## I.—RAILWAY PANIC.

Influence of panic on Railway property—Causes of depreciation in Railway shares—Railway system too quickly developed—Pressure of calls—Political convulsions—Depression in trade—Depreciation of property—Depreciation of Railway property by the press—Advantages of Railways—Their success induced over-speculation—The Railway schemes of 1845—Over-trading in Railways—Railway acts sanctioned by parliament—Non-interference of Government—Directors not to blame for Railway depreciation—Expenditure in obtaining Railway acts—Exorbitant cost of land—Intrinsic value of Railway property.

INVESTMENTS of all kinds are liable to be affected by <sup>Influence of</sup> panic. Panics; for, the value of Property is influenced by opinion, <sup>panic.</sup> and whatever affects the public confidence, operates injuriously upon its market value, directly or indirectly.

The newest and last-established kinds of property are <sup>Railway panic.</sup> generally the first to be so affected, the older and more recognized descriptions being less subject to the influences of panic. At the present day, Railways constitute the property of the most recent growth in this country; and as might have been anticipated from the suddenness of its creation, shares in this property have been subject to alternate rises and falls in market value, greater than have been observed in most other recognized investments.

There are numerous circumstances to account for the <sup>Causes of</sup> great depreciation in the money value of railway stock <sup>the depreciation</sup> during the last few years. The extent of railways formed <sup>in railway</sup> within a short period has been so great—the liabilities connected with the proprietorship of shares during the construction of the railways, has been so serious, from the drain of ready money which it involved—the development of the whole system has been so sudden and almost complete,—that the old interests were not allowed the requisite time to adapt themselves to the new—trade and commerce were disarranged by the capital withdrawn from them (for it was the trading and commercial classes mainly who engaged in the enterprise of railway construction)—these, with other causes, have combined for a time unnaturally to depress the value of railway property; and shareholders, after cooling down from the fever of speculation into which they were a few years ago hurried by the splendid success of the first railways, have started back alarmed at the realization of their own projects, and

they have recently been found almost as eager to escape from their liabilities as they before were to undertake them.

The railway system developed too quickly.

The great mistake made by the public—a mistake which the legislature instead of correcting has rather contrived to encourage—has been in attempting to execute works in three or four years, which might with great benefit have been spread over twelve or fifteen years. The class investing in railways has been limited; they consisted chiefly of men engaged extensively in the operations of trade, a large proportion of whom had comparatively little surplus capital at their disposal. Many of these invested in railway shares, speculating on a rise. But no sooner had the numerous

Pressure of calls on the share market.

Acts of 1846 been obtained, and the capital began to be called up for the purpose of constructing the works authorized, than the weaker holders, unable to pay the calls, had no alternative but to send their shares into the market, or they sold a portion of them to pay the calls on the remainder,—and the same causes operating extensively all over the country, at once depressed the prices of all railway shares. New speculators might buy in at the low prices, anticipating a favourable change in the market, but the calls fell upon them in turn, and they too had to sell out at a sacrifice, at still lower prices. Shares became a drug in the market. The demand for them ceasing, they necessarily fell in value. Men in business refrained from locking up their capital in them; and the large capitalists, not yet altogether reconciled to the new property,—deterred, moreover, by the alarming articles which appeared in the public prints,—would not yet come forward and invest. Hence continued depreciations in railway property, and the extension of the panic, until even the best and oldest established lines suffered equally in market price with the newest and least tried of the railway properties.

Political convulsions on the continent alarming to the capitalist.

In addition to the causes of railway depression already referred to, there have been others of equal weight. The political convulsions of the continent during the last twelve months have alarmed the capitalist classes of this country; credit of all kinds has been shaken; men have been afraid to lock up their money in investments not easily convertible into their ready money value, no matter how profitable they might promise to be; and loans have with difficulty been obtainable on even the best landed security. The minds of men have been filled with fear and apprehension, and the influence of these is always unfavourable to the operations of credit.

Depression in trade injurious to railways.

The trade and internal traffic of the country have at the same time suffered seriously—not through reason of railways, so much as through a concurrence of other causes: thus it appears from the Government Trade Reports recently published, that our exports had decreased from £35,309,798, in the eight months ending 5th September, 1847, to £30,022,829 in the correspond-

ing period of 1848,—or a decrease of above 15 per cent.; the decrease being £4,428,656, as compared with 1846. The imports had also declined in nearly an equal proportion, exhibiting a large falling off in the internal trade and traffic of the country. The falling off in the revenue for the year ending July the 5th, 1848, was very considerable—the decrease in the Customs and Excise duties alone amounting to £439,648; showing a severe and long-continued pressure on the means of the great body of the consuming population. The depression of trade here indicated has operated greatly to the disadvantage of railway property, the revenues of which have suffered both as regards goods and passenger traffic, in even a greater proportion than has been experienced in other branches of industry. For, railway travelling is in many cases a luxury—and not like tea, sugar, and other exciseable articles, an altogether indispensable necessary of life. In many cases it is a thing that may be, and must be, dispensed with, if there is not money enough in the pocket. It has been estimated, and we believe with a near approach to correctness, that railway traffic has, during the last two years of paralyzation of commerce, and the want of ready money to spend in travelling, been affected in the gross receipts to the extent of not less than from 20 to 25 per cent.

But railway property has not stood alone in its depreciation. During 1847, there was a corresponding decline in nearly all other descriptions of investment. A decline in consols from 100 to 75, represented a depreciation equivalent to about £168,000,000: there was a depreciation in East and West India produce, machinery, and manufactured articles, amounting to about £100,000,000. A depreciation in the value of Bank stock, South Sea stock, and other established securities,—in mill property, machinery, shops and warehouses, dwelling-houses, building land, ships, &c., to an immense amount. Railway shares have, however, suffered more than these kinds of property in relative depreciation, for obvious reasons, but mainly because of the heavy calls inevitably falling upon railway shareholders.

Depreciation  
in property of  
all kinds dur-  
ing the same  
period.

The Press has also done much to damage railway property. It has made it the subject of public discussion and animadversion more than any other description of investment. Railways have been assailed by misrepresentation of all kinds; and alarm has been skilfully excited against them, sometimes by those who had dashing articles to write, at other times by partizans of the different companies having their several organs in the public press,—and all companies coming in for their share of animadversion by turns, the tendency of such writing was alike to damage and depreciate railway property of all kinds. Under the influence of alarming “leading articles,” and equally alarming “letters to the editor,” the public fears were thoroughly excited,—the timid holders of shares rushed into the market to sell out at ruinous prices, and railway property suddenly became unpopular.

Depreciation  
of railway pro-  
perty by the  
press.

Public advantages of railways. It is now too late in the day to offer any observations on the splendid advantages which the establishment of railways has conferred upon the people of this country—the large amount of employment they have given to the labouring classes, at a time when other employment was difficult to be had—the facilities for travelling which they have afforded, as compared with the old postroads and highways—the development which has been effected, through their means, of the internal resources of the kingdom—the impulse they have given to civilization by their distribution of the products of labour and of thought, with a speed, regularity, and economy, altogether unprecedented in the world's history. These are now admitted facts, and need not be insisted on. Canals were a valuable invention, and were highly useful in their day: they gave an impulse to industry in the districts through which they passed, and tended greatly to develop the material wealth of the country. In connection with the invention and development of the canal system, the names of the Duke of Bridgewater and James Brindley will long be held in remembrance as noble benefactors of their kind. But canals must be admitted to sink into comparative insignificance when compared with railways, as regards the facilities which they offer to commercial intercourse between all parts of our island, and the speed, regularity, and cheapness of transit of all the products of industry. Railways virtually bring towns and cities into close approximation; they open up for agriculturists new markets for the sale of their produce; they circulate freely the great necessities of life, coal, provisions, and clothing; they offer to the denizens of cities the ready enjoyment of rural beauty; and to the rural population they give the advantages of towns and cities; and thus, by their means, has Great Britain become as one great city, the streets of which are the iron roads which now stretch across it in all directions.

Brilliant success of the first railways induced over-speculation in them. The success of railways up to the year 1844 was so brilliant and decided—the security and profit which they offered to investors was so great—that the extension of the railway system became inevitable. Great profits, realized in any commercial enterprise, immediately induce a flow of capital in that direction. Success leads to overtrading in railways, as it has ever done in all other departments of industry. The large dividends which were paid by the London and Birmingham, Liverpool and Manchester, and most of the older companies—dividends calculated on a sound basis, and the correctness of which was generally admitted—attracted the attention of capitalists, and the prices of shares in such lines rose to more than double their original value. The trustees of charity property became large investors in these lines, and continue so to the present time. Previous to the extensive projection of railways, it had been difficult to find good investments for money at more than 3 or 3½ per cent. A large amount of British capital annually flowed out of the country for investment in foreign stocks, foreign loans, American State funds, and South American mines,—many of them investments of the most hopeless and profitless description. The temptation,

therefore, of an 8 or 10 per cent. dividend on *bona fide* railway property at home, was too great to be withstood ; enterprize ran a-head of prudence ; railways became for the time popular beyond every other description of investment ; and there was a sudden projection of new lines of railway in all directions.

The immense advantages of railway communication to the large towns were now discovered ; and their inhabitants were found as eager to encourage the formation of railways, which should place them in connection with the main lines of traffic, as they before were found hostile and eager to resist them. Many towns which had formerly petitioned against, now petitioned for railways. Even the landed gentry were now won over ; for they had ascertained how greatly the value of land had been increased, and how much the amount of poor-rates had been decreased, by lines of railway passing through their estates—not to speak of the immense sums derived by them from the sale of land to the railway companies ; and many of their names were accordingly found at the head of the leading projects of 1845. All things concurred to cause a strong flow of capital and enterprise in the direction of railways. New projects were accordingly launched in profusion ; speculation rose to a height seldom before equalled ; transactions in railway shares assumed the most gigantic form, and all classes alike were engulfed in the vortex of speculation.

The sudden projection of the new railway schemes.

There was now *overtrading* in railways, and the consequences were not remote. Reaction took place, and shares fell : a panic ensued, abated, and ensued again with more frightful results than before. The first panic set in about the beginning of 1846, and such was its influence, that the estimated difference in the market value of railway *scrip* alone, between the 1st of September, 1845 and the 1st of April, 1846, amounted to not less than Sixty Millions sterling. And the estimated depreciation in the market value of railway shares from that time to the present is not less than One Hundred Millions sterling. Their intrinsic value remained the same ; even with a depressed traffic, most of the railways were and are paying an average of 6 per cent. The depreciation in market value was the result of over-speculation, overtrading, in railways ; and was only to have been expected. It was in no respect chargeable to the character of railway property as an investment, but to speculation carried far beyond the bounds of prudence, and which must have proved equally ruinous in any other branch of commercial enterprize, although of the soundest and most established character.

Overtrading in railways.

Railway extension, notwithstanding the enormous injuries sustained by over-speculation, remained a great public necessity ; and Railway Acts were passed in the session of 1845, authorizing the construction of 2841 miles of railway ; and in 1846, further acts were passed authorizing the

Large number of lines sanctioned by Parliament.



construction of 4790 miles. Although the development of the internal communications of a country is a business that may be considered especially to fall within the province of Government, ours has taken no part in the initiative of such measures. All sorts of rival railway projects were brought before Parliament in 1845 and 6, got up at immense expense by the respective companies. In some cases as many as twenty lines of railway were projected through the same district; many of these schemes reached Parliament; and the Committees generally satisfied themselves with looking on and watching the ruinous game of competition, for which the public were ultimately to pay. Schemes of sound and *bona fide* character were allowed to be defeated on merely technical grounds, and others of a very inferior character were sanctioned by public act, after Parliamentary expenses of astounding magnitude had been incurred.

What Government might have done, but did not do. A well-digested scheme of railways, superintended by scientific men appointed by government, would have remedied all this, and prevented the enormous blunders that have been made, the gambling risks that have been run, and the extravagant Parliamentary, Legal, and other expenditure that has been incurred. But the mischief which the government might have prevented is now done, and it is too late to lament over it. It is only fair, however, in these days when blame is so largely meted out, that the blame should be duly apportioned and laid at the doors of those who really deserve it.

Directors not to blame for railway depreciation. Directors are generally blamed—they stand before the public as the administrators of railway property—and on their shoulders is generally laid the burden of railway odium. Shareholders might really lay a portion of the blame on their own shoulders with equal justice; but they do not like to confess themselves in fault in having come under engagements larger than they can conveniently meet, and the Directors being ready at hand are blamed accordingly. It ought to be considered, however, that Directors are appointed to exercise certain powers entrusted to them—powers which expire after a limited period, and which can only be renewed after great delay and additional expenditure. They exercise those powers by the sanction of the shareholders themselves; and if they do acts contrary to the will of the shareholders, the power is in their hands at any time to remove them.

Expenditure in obtaining railway acts. The enormous expenditure connected with the obtaining of railway acts has been made matter of much comment, and justly so. But lay the blame where it should lie. It is not the fault of Directors that the fees charged by the Houses of Parliament, and the expensive forms that must be gone through before an act can be obtained, cause an expenditure in Parliamentary and legal expenses amounting to from £1000 to £7000 a mile. It is Parliament that has been mainly to blame for the protracted and expensive contests that have taken place in Committee—not Railway

Directors, who had no alternative but to act to the best of their judgment under the circumstances in which they were placed, for the protection of the property they were appointed to watch over. These contests have been encouraged by Parliament rather than otherwise: they would give the public the "benefit of competition"—competition in railways being every day found more and more impracticable, and as injurious to railway property and to safe railway-working, as it is expensive to the public themselves. Competing lines were, however, granted—sometimes parallel lines through the same district, and between the same towns. In fact, railway legislation became a mere scramble, conducted on no system or principle, but entailing enormous expenses on those engaged in it. The following are the costs incurred in obtaining the original acts of some of the principal Railway Companies:—

Great Western Railway Act .....	£88,710
London and Birmingham „ .....	72,868
Eastern Counties „ .....	45,190
Great Northern „ .....	434,861

Nor are directors to blame for the exorbitant cost of the land required to be purchased; and which it has been contrived shall be kept up by the operation of the Land Clauses Act. Large sums in the way of Compensation have been extorted from Railway Companies for passing through estates, the value of which may have been about doubled by the railway coming to them. The Eastern Counties Company, up to 1846, had paid not less than £809,950 for land, or equal to about £12,000 a mile. The cost of the land purchased by the London and Birmingham and Great Western Companies averaged not less than £6,300 per mile.

Exorbitant  
cost of land for  
railways.

For all this expense, which has been aided and abetted by Parliament, Directors are not to blame. Our present object, however, is not to write a defence of Directors, or to lament over mischiefs which are done, but to endeavour to show, that notwithstanding the various obstacles which have been thrown in the way of the development of railways, the great expenditure which has been incurred in obtaining the acts, the exorbitant prices for land obtained by landowners, and the heavy expenses of their construction and working,—railways really offer, at the present day, one of the safest and most reliable investments for men of capital—that the fears entertained as to the security of railways as an investment are for the most part groundless; and that the prospects of this description of property are really of the most hopeful and cheering character.

Railway  
property never-  
theless of high  
intrinsic value.

## II.—RAILWAYS AS THEY ARE.

Mileage of Turnpike Roads and Canals—Mileage and capital of Railways authorized—England's competency to form the Railways—Ruin predicted: groundlessness of the alarm excited—Railways as yet imperfectly developed—Railway capital and revenue—Estimated average profits of Railway traffic—Probable total capital to be raised—No cause for further alarm as to Railway calls. *Railway Traffic*: Average mileage receipts of Railways—Causes of decline of weekly average receipts—Large increase of passenger traffic—Lower fares adopted. *Merchandise Traffic*: Has exceeded the original estimates—Items of merchandize traffic in 1847—Traffic created by Railways—Fish traffic—Cattle traffic—Meat traffic—Agricultural traffic—Lime and manure traffic—Corn and provision traffic—Coal and coke traffic—Merchandise traffic not yet brought upon the Railways.

Mileage of  
turnpike-roads  
and canals.

An estimate was made a few years ago of the mileage of Turnpike roads and Canals in Great Britain, which presented the following results:—

Turnpike roads in England, Scotland, and Wales...	27,866 miles.
Canals in do. do.	2,150 "

Mileage and  
capital of  
railways au-  
thorised.

The mileage of Railways authorized to be constructed, and actually open for traffic throughout Great Britain and Ireland at the end of 1847, with the capital authorized to be raised, and actually raised, were as follow:—

RAILWAYS AUTHORIZED*		Length of Railway authorized.	Total Capital authorized to be raised by Shares and Loans.	Amount actually raised.	Length of Railway open for Traffic.
Prior to 31st Dec., 1843.....		2276	£82,848,081	£65,530,792	1952
During 1844.....		805	20,454,698	6,820,775	196
" 1845.....		2700	59,479,485	16,129,809	293
" 1846.....		4538	128,918,207	37,814,993	595
" 1847.....		1354	44,879,739	41,025,487	780
TOTALS.....		11,673	336,580,210	167,321,856	3816

Mileage au-  
thorized in  
1848.

In the session of 1848, about 300 miles of new railway were sanctioned, making the total mileage at present sanctioned by Parliament amount to about 12,000 miles. And in the course of the year 1848, there was called up on railway shares £33,260,159, making a total of about £200,500,000 of railway capital raised up to the present time.

Probable  
mileage of  
railways not  
yet completed.

But a considerable proportion of the mileage named will not be constructed. Many of the older acts authorizing the construction of railways have already expired, and the lines are not made. Of the acts obtained in 1846, a considerable

\* Railway Commissioners' Report for 1848, p. 45.

number will expire in like manner without taking effect. Some companies are already winding up their affairs, and others are preparing to follow. The older companies are suspending indefinitely all railway works not absolutely necessary, and the three great Western companies have been arranging to suspend the construction of lines by which the expenditure of some ten millions of capital may be avoided. Applications have been made to the Railway Commissioners under the act passed in 1847, by which the execution of railways to the extent of 3,650 miles was authorized to be postponed. It does not seem probable therefore, unless some new impetus be given to railway enterprise in the construction of new works, that more than 9,000 miles of the lines up to this period authorized to be constructed, will be completed for public traffic; and such completion may not be looked for in less than three or four years from the present time.

It will be admitted that the amount authorized to be raised for the construction of railways during the three years of 1845-6-7, was very large—was *too* large. As events have proved, however, it was quite within the money power of this country to execute these works, and works of even double the magnitude had they been required. But for the derangement in currency, the short crops, the depressed trade, and the alarm which was so sedulously excited and kept alive, and which shook the public confidence in railways for a time, this great enterprise would have been accomplished with little suffering to any class, and with immense present and prospective benefit to the public. At a time when the accumulated capital of the country was much smaller in amount than it is now,—during the last ten years of the war, from 1806 to 1815,—the nation spent not less than £860,677,615,\* and of this, some £400,000,000 went in war expenses, or about 38½ millions per annum. For this enormous outlay, not even a miserable quarter per cent. was obtained—nothing but dead bodies and shattered limbs; and yet, notwithstanding all this worthless expenditure, the nation prospered, and capital accumulated. We have now enjoyed more than thirty years peace, and when it was proposed to invest the capital which we could so readily throw away on arms and gunpowder, upon actually productive works, the cry was raised of impending ruin and bankruptcy. The lodging of the deposits with the Accountant-General was to result in “ruinous, universal, and desperate confusion.” The money was lodged, and no ruinous confusion took place. The acts were obtained, and ruin was again predicted; “where was all the money to come from?” The money has been got—£112,100,639† has been raised in the course of three years, involving, it is true, much

England's  
competency to  
execute the  
railway works.

Ruin pre-  
dicted.

\* Porter's Progress of the Nation, vol. III, p. 118.

† Raised by Calls and Loans in 1846 (Railway Commissioners' Report) .....	£37,814,993
Do, do, 1847 do. ....	41,025,487
Called up on Shares in 1848 (London Weekly Share List) .....	33,260,159

Total raised in three years..... £112,100,639

suffering to some classes, but not to the nation at large; the railway works are drawing towards completion; the alarm is passing away; and we are issuing out of our railway enterprise with improved trade, almost a glut in the money market, and a more cheering prospect for the industrial interests generally than we have enjoyed for many years past. It is now seen, how groundless was the panic so mischievously and so ignorantly excited by the public press during the last few years. It is now ascertained, that the railway works have not swallowed up the money of the country, but on the contrary prevented the money going out of the country; while they have given employment to a large portion of the people, largely added to the resources of the country, and afforded an investment for capital of the most reliable character.

Imperfect development of railways at the present time. The statistics of railways are as yet so exceedingly imperfect, notwithstanding the returns ordered by the Board of Trade, that it is difficult to ascertain with precision the amount of capital expended on those lines, or portions of lines, which are in full working order, as distinct from those which are only in course of construction. Thus, a large portion of the lines at work in 1847, were only newly opened, and in partial operation; some of them, such as the East Lancashire, not opened up to their great sources of traffic, but only in parts, and those probably the least productive. Many carried only passengers, others only coal and goods; some had their stations and depôts to form, and were in most respects imperfect; and therefore ought to be excluded from any fair calculation of profits on the capital invested and actually productive.

Railway capital and revenue. It appears from the Railway Commissioners' report of Railway Capital raised (as given above) that the total capital raised up to the end of 1846 was £126,296,369; the gross revenue for the year ending June 30th, 1847, being £8,510,886. It is very obvious, however, from the large amount of capital (£37,814,993) raised during the year ending Dec. 31st., 1846, (during which year only 293 miles of new railway were opened) as compared with the preceding year, that the greater portion of such capital was expended in the construction of new lines of railway which could not then be at work; and therefore the revenue named does not represent the traffic receipts of the lines upon which the above capital had been expended. In the Commissioners' Report for 1848, it is stated that the railways sanctioned in one session of Parliament, are not completed until within about *four and a half years* from the end of that session, "that less than one-fifth of the whole require more than three-and-a-half years for their completion, about one-half requiring between two-and-a-half and three-and-a-half years, and the remainder less than two-and-a-half years."\*

\* Report for 1848, p. 46.

It would, therefore, be a fairer estimate to take the capital raised up to January 1st, 1846, and assume that the traffic receipts for the year ending June 30th, 1847, represented more nearly the actual revenue of the lines at work; though, it must also be added that many of these lines were only in partial operation, and that much of the capital raised and expended by the companies in 1845 was still unproductive up to the end of the year 1847. But if we take this estimate, partial and incomplete though it be, we find it to stand as follows:—

Total Capital raised to Jan'y. 1st, 1846.	Traffic Revenue for the year ending June 30th, 1847.
£88,481,376	£8,510,886
Deduct working expenses calculated at 40 per cent on gross receipts .....	3,504,828
Leaving for dividends and interest on Loans .....	£5,006,558
Appropriable as follows:—	
Interest on say half the borrowed capital at 4 per cent.....	£500,964
Ditto at 5 per cent.....	626,205
Dividend on the Share capital at 6 per cent. ....	3,801,974
Balance unappropriated .....	77,415
	£5,006,558 *

Assuming the above capital to be about the amount productively employed at the time stated, it exhibits an annual average profit on all the railways, good, bad, and indifferent, throughout Great Britain and Ireland, of 6 per cent. per annum. And the estimate we have made is, we think, fully borne out by the financial reports of the largest railway companies recently published.

\* We give another estimate of Traffic revenue from *Herapath's Journal*, compiled from their Traffic table, with the amounts expended on railway works, as per the reports of the companies named. But this is a very low estimate, for this reason—that a large proportion of the expenditure shown was on works then in progress, and not productive of revenue in any degree whatever.

TABLE of the TOTAL EARNINGS during the Half-year ended Dec. 31st, 1848, of the ten longest established Lines which have at any time paid a dividend of 5 per cent. and upwards, showing the amount earned and the rate per cent. that the nett returns would pay on the capital expended, as per Reports at Christmas, 1847.

Name of Railway.	Amount spent as per last Report.	Total receipts, Christmas, 1847.	Working expenses.	Nett balance for Divi- dends and Interest.	Dividend paid on share Capital, at per cent. per annum.	Dividend earned on the Capital ex- pended, at per cent.
	£.	£.	£.	£.	£.	£.
Eastern Counties.....	8,282,787	323,856	131,379	192,477	5	4 12 11½
Great Western.....	12,255,739	634,454	210,444	224,010	7½	3 13 4
London and North Western	21,513,353	1,160,085	437,031	723,054	8½	6 13 4
London and Brighton.....	6,087,822	251,076	119,886	131,190	4	4 6 2
London and South Western	6,254,045	247,625	127,471	120,154	9	3 17 0
Lancashire and Yorkshire..	7,597,617	273,220	87,904	185,316	7	4 17 6
Midland.....	9,855,122	600,041	312,065	287,986	7	5 17 0
York, Newcastle, & Berwick	4,466,526	352,453	135,738	216,715	9	9 14 0
York and North Midland..	3,799,297	251,765	87,952	163,813	10	8 12 6
South Eastern.....	6,932,181	251,651	123,820	127,795	0½	3 13 9
	£87,044,489	£4,245,190	£1,773,690	£2,471,590	paying on the whole, as an average ...	25 11 0½

It will be observed from the above table of Capital authorized to be raised under the Railway Acts granted up to the end of 1847, that the total amount is £336,580,210. Of this amount, about £200,000,000 has already been raised by calls and loans: and it is probable that £50,000,000\* more may be required to complete the lines at present in progress, or likely to be made. For, every day more clearly shows that a large number of the schemes obtained in 1846 and 1847, will not be carried into effect; the London and North Western Company alone having intimated their intention of abandoning branches which it would require £3,800,000 to construct. Many of the new companies have not yet commenced their works, and there is little probability of their being in a position to commence before the expiry of their powers. The Railway Commissioners in their Report of March, 1848, say—"It is known that many of the lines sanctioned in those years (1845 and 1846) are not yet commenced; that at the latter end of 1847, nearly 1200 miles of railway sanctioned in 1846 were not commenced, and a few miles even of the railways sanctioned in 1845. Under the Act which the legislature passed in December last, with a view to relieve the country from the effect of a too rapid expenditure on railways, the commencement of about 2200 miles of railway is postponed for 12 months; and applications have been made to the Railway Commissioners for an extension of time for the completion of 3645 miles, being nearly half of the railways authorized and not completed."† And there now seems little reason to doubt that a very considerable proportion of the lines thus postponed will ultimately be wound up and abandoned.

The raising of the amount of Capital further required for the completion of the lines in progress, will be spread over a period of about three years from the present time; so that we do not regard this as a matter to alarm the sensibilities of the currency men, or that any undue pressure on the money market will arise from this cause. The present gross traffic on railways per annum is about £10,000,000; and when all the lines in course of construction, are completed, which will be in about four years from the present time, we shall have above 9,000 miles of railway at work, and a probable annual revenue of little short of £20,000,000.

\* An elaborate, and we believe, accurate estimate has been made by Mr. Rhodes, of Leeds, of the amount remaining to be called up on railway shares (published in the *Leeds Intelligencer* of October 21st, 1848); and his figures show that the total amount to be further raised by calls on shares under Acts now in force, is £66,762,306; but from this he makes deductions amounting to £26,641,049, on account of defunct schemes, leaving only £40,121,256 as remaining further to be called up. A large deduction must certainly be made for the defunct or abandoned schemes. Thus, although acts were granted between 1801 and 1842, authorizing the raising of £76,448,067, only £62,101,600 was actually raised under such acts, the remaining fourteen millions being for lines which were abandoned. And there is little doubt but a considerable larger proportion of the acts obtained in recent years (so many of which were obtained for the purposes of defence against rival companies, or arose out of the fever of speculation of 1845-6) will ultimately fall to the ground as inoperative. As Mr. Glyn, M.P., stated before the Railway Acts Enactments Committee in 1846,—"Attempts will be made by the new companies to carry out their acts; some strong ones may go on, but in a great many instances you will find that the schemes will be abandoned, and that they will not be able to exercise the power within the time that Parliament has given them to carry out these acts."—P. 128.

† Report, p. 46.

**RAILWAY TRAFFIC:**—The following table exhibits in a satisfactory light, the steadily progressive traffic of railways in Great Britain, both in Goods and Passengers, during the last six years:—\*

Traffic for the year ending 30th June.	Miles open at the commencement of each year.	Receipts from Passenger Traffic.	Receipts from Goods Traffic.	Total Receipts.	Receipts from railway traffic.	Average Receipts per mile per annum.
1843	1857	£3,110,257 0 0	£1,424,932 0 0	£4,535,189 0 0		2442
1844	1952	3,439,294 0 0	1,635,380 0 0	5,074,674 0 0		2604
1845	2148	3,976,341 0 0	2,233,373 0 0	6,209,714 0 0		2890
1846	2441	4,725,215 0 0	2,840,353 0 0	7,565,569 0 0		3099
1847	3036	5,148,002 5 0½	3,362,883 19 6½	8,510,886 4 7½		2804

The gross receipts for the year ending 31st December, 1848, are stated by Mr. Hackett as amounting to about £10,068,000 sterling.†

Estimated receipts for 1848.

Here we have the average mileage receipts of all the railways in Great Britain amounting to £2804 in 1847 as compared with £2442 in 1843,—an increase which, it must be admitted, is exceedingly satisfactory and speaks well for the steady prosperity of railways. The increase of mileage revenue in 1847 as compared with 1843 is £362 per mile per week, although the miles of railway worked in 1847 are 3036 as compared with 1857 miles in 1843,—showing that the railways first established had not taken the cream off the traffic—that the new lines had secured their fair share, and this without taking from those already established; or rather, that the increased railway accommodation had tended to increase rather than to diminish the revenue of railways generally.‡

Average mileage receipts of railways.

The falling off in the mileage revenue of 1847 as compared with 1846, is to be accounted for by the depressed state of trade in 1847 already referred to, and also in a great measure to the large increase in the mileage of 1847, not less than 780 miles of new railway having in the course of that year come into operation. And it is a well-known fact, that a railway requires much time for the development of its proper traffic;—more especially for the accommodation of its coal, goods, cattle, and merchandise traffic generally. Notwithstanding this circumstance, however, the general increase of traffic in 1847 as compared with previous years, is very decided. (*See Table in the Appendix.*)

Causes of decline in 1847 as compared with 1848.

\* Railway Commissioners' Report for 1848, p. 44.

† In *Herapath's Journal* for January 6th, 1849.

‡ At the commencement of the year 1847 as compared with the same period of 1846, 595 miles of new railway were open; but another return of the Railway Commissioners (Report p. 45) shows that the total new mileage up to the end of 1847 was 780 miles.



Railway passenger traffic for 5 years, ending 30th June, 1847.

If we next take the number of the special classes of persons conveyed by passenger trains, the increase is equally apparent.\*

Passenger Traffic for the year ending June 30.	Miles open at the middle of each period or at the commencement of each year.	First Class.	Second Class.	Third and Parliamentary Class.	Mixed.	Totals.	Increase.
1843	1857	4,276,540	11,198,512	6,431,911	1,559,933	23,466,896	
1844	1952	4,875,332	12,235,686	8,583,085	2,069,498	27,763,602	4,296,706
1845	2148	5,474,163	14,325,825	13,135,820	855,445	33,791,253	6,027,651
1846	2441	6,160,354	16,931,065	18,506,437	2,193,126	43,790,983	9,999,730
1847	3036	6,572,714	18,699,288	22,850,804	3,229,357	51,352,163	7,561,180
Increase of mileage in 1847, over 1843.	1179	Increase of Passengers in 1847 over 1843 ....					27,885,267

The total number of passengers who travelled by rail in 1847, or 51,352,163, shows about a million of people travelling by rail weekly, or 140,000 souls daily on the move !

The number of persons who travelled over 1857 miles of railway in the year 1843, was in the proportion of 12,637 persons to the mile; whereas in the year ending June 30th, 1847, the number of passengers over 3036 miles of railway was in the proportion of 16,974 to the mile. It appears also that the increase of passenger traffic in the half year ending December 30th, 1847, was still greater than in the half year preceding. The Commissioners of Railways in their Report for 1848, state —“ At the beginning of 1847, 3036 miles were opened for traffic; at the end of the half year (June 30th), 3496 miles were opened; and at the end of the year, (December 31st), passengers were carried upon 3816 miles of railway; and it appears from the returns, that the number of passengers conveyed in the former period was 23,119,412, in the latter, 31,734,637, being an increase of 37 per cent.;”† though the increase of mileage had been only 25 per cent.

Yearly increase in passengers conveyed.

The yearly increase in the number of passengers of each class conveyed, and in the money received for their conveyance, may be thus stated :—‡

\* Railway Commissioners' Report for 1848, p. 44.

† Report, pp. 5 and 6.

‡ Contributions to Railway Statistics. By Hyde Clarke, Esq. *Civil Engineer and Architect's Journal* for 1848, p. 241.

Description of Passengers.	Yearly increase in Passengers.			Yearly increase in Money received.		
	1845.	1846.	1847.	1845.	1846.	1847.
1st Class .....	12 $\frac{1}{2}$ cent.	12 $\frac{1}{2}$ cent.	7 $\frac{1}{2}$ cent.	6 $\frac{1}{2}$ cent.	9 $\frac{1}{2}$ cent.	...
2nd Class .....	17 "	18 "	10 "	16 "	21 "	6 $\frac{1}{2}$ cent.
3rd Class .....	50 "	41 "	23 "	34 "	58 "	24 "
Altogether.....	21 "	24 "	17 "	16 "	18 "	9 "

It is worthy of remark that the steady increase in railway revenue which is exhibited by the above tables, took place while railway companies were greatly lowering their rates and fares to the public. During the year 1847 the fares were on an average about 24 per cent. lower than those charged in 1842; and notwithstanding the immense increase of new lines, and this great reduction of fares, the average revenue per mile exhibits a steady increase. It may also be observed that many of the new lines opened have, from the progress of railway improvement, been more cheaply constructed than the older lines, and therefore a smaller nett mileage revenue is calculated to yield an equally good dividend to the shareholders.

The following table (by Mr. Wyndham Harding, Secretary to the London and South Western Railway) is given to show the great reductions which have taken place in passenger fares since 1843; and to make the comparison more appreciable, the fares are taken as for 100 miles in pence:—

RAILWAYS.	1st Class. Fare for 100 Miles.		2nd Class. Fare for 100 Miles.		3rd Class. Fare for 100 Miles.	
	In 1843.	In 1847.	In 1843.	In 1847.	In 1843.	In 1847.
London and North Western ...	334.8	218.1	241.1	144.6	131.2	93.3
Great Western .....	303.1	274.4	208.5	187.8	118.3	100.0
London and South Western ...	312.0	245.0	210.0	168.0	120.0	96.0
Eastern Counties .....	294.1	210.0	227.4	141.5	164.7	92.3
Northern and Eastern.....	217.4	...	165.5	...	110.9	...
South Eastern .....	227.0	214.0	150.0	152.0	87.5	90.0
London and Brighton .....	350.0	263.0	225.0	171.0	150.0	109.0
Average .....	303.5	237.4	210.3	160.8	128.6	96.7
Difference per cent. ....	...	21.8	...	23.8	...	25.0

These results do not include the Return Tickets, generally introduced within the last three years, and effecting a reduction of fares even greater than is here shown.\*

It is not unworthy of remark also, that all those reductions in fares took place before the public and the press had set up a claim for competing lines. The large and remunerative traffic of the older companies enabled them to greatly lower their fares, to the public benefit. But competing lines were called for by the public, and competing lines were granted by parliament. Two capitals were expended to form two lines of railway where

Lower fares  
not the result  
of competition.

\* *Journal of the Statistical Society*, November, 1848.

one had been sufficient. And what is the inevitable result? That the low fares cease to be remunerative to the companies in the same degree that they formerly were; and fares are again being raised to ensure a fair return on the capital expended. Competing lines are obtained, but not the benefits of competition, which, in the cases of railway companies, water companies, canal companies, and such like, experience has abundantly proved to be impracticable. Amalgamation puts a stop to competition; and the public pays the price of the extra expenditure on the new works. This was clearly proved by the evidence given by Mr. Glyn, Mr. Hudson, Mr. Laing, Mr. Rowland Hill, and other intelligent witnesses, before the Select Committee on Railways in 1842; yet Parliament, profiting nothing thereby, granted competing lines whenever called for; and the issue is this—that the cheap monopoly fares are now giving place to the higher competing fares, greatly to the public injury and annoyance. To this topic we shall again revert.

The revenue derived from Merchandize Traffic, has exhibited an increase even greater than that derived from Passengers. While the revenue from passengers has doubled itself since 1842, that from merchandize has been nearly trebled. The estimates of traffic laid before Parliament, have in all cases within our knowledge, been greatly exceeded. The following estimates of the Passenger and Goods traffic of the Railways named, were laid before the House of Commons when the Acts were being applied for, and the Traffic actually realized is given in parallel columns\* :—

Name of Railway.	Length in Miles.	Parliamentary Estimate.		Actually realized in 1846.	
		Passengers.	Tons of Goods	Passengers.	Tons of Goods
Midland .....	163½	550,985	151,845	2,468,110	900,895
Lancashire and Yorkshire .....	79	207,688	109,486	2,157,173	522,177
York and N. Midland .....	27½	185,660	5,547	933,514	370,414
Hull and Selby .....	31	19,562	93,873		
London and Brighton .....	50	226,444	43,765	971,081	93,407
London and S. Eastern .....	67	317,252	63,079	1,074,730	116,385
Gt. N. of England .....	45	75,158	32,136	239,587	433,867
Gt. Western & Brist. & Exeter	231	821,145	209,563	2,757,193	300,000
Lancaster and Preston .....	20	106,957	...	162,012	25,585
Glasgow and Ayr .....	18½	597,470	121,027	1,091,371	293,304
London and Cambridge .....	57½	591,344	72,214	922,413	110,348
Dundee and Arbroath .....	16½	200,727	51,899	317,092	21,059
Sheffield and Manchester .....	44½	335,444	84,050	1,604,227	135,000
	851½	4,135,836	1,038,504	13,718,503	3,530,441

Estimated Traffic—in Passengers .....	4,135,836	In Goods .....	1,038,504
Realized Traffic, 1846 .....	13,718,503	„ .....	3,530,441
Excess over Estimates .....	9,572,667		2,492,937
Increase per cent. ....	230		250+

\* We have compiled this Table from an instructive pamphlet by H. Brown, Esq., M.P., entitled “*Irish Wants & Practical Remedies*,” and from Clarke’s “*Contributions to Statistics*.”  
† “*Contributions to Railway Statistics*.”—*Civil Engineer & Architect’s Journal*, 1848, p. 242.

The increase of the traffic of 1847 over the original estimates, was still greater than that of 1846, on the lines above named.

The total receipts from merchandize traffic for the year ending June 30th, 1847, was £3,362,883 on 3036 miles of railway,—as compared with £1,424,932 in 1843, on 1857 miles of railway.\*

Total receipts for merchandize traffic in 1847.

The increase of traffic is found to depend much upon the length of time that a railway has been in operation. Its development seems to proceed at an increasing ratio for several years after it has been opened. First the passenger traffic is developed, and then the merchandize traffic, the progress of which is however much slower if we take into account the immense merchandize traffic of the whole country.

Development of the traffic.

Already, the railways had afforded up to 1847, accommodation for 34,000,000 of travellers yearly, beyond what was provided by the old coach and other accommodation; but as yet, comparatively, a small part of the goods traffic of the country has been got upon the railways. The increase alone in the number of passengers conveyed by rail, since 1844, has been not less than 23,588,561, which is probably more than the total passenger traffic of the country in 1825, or before the railway system was in operation. Of this increase, 14,267,718 were third-class passengers, most of them belonging to the working orders,—the advantages of railways to whom, by furnishing them with the medium of transporting their labour to the best market, must be very apparent.

Number of travellers accommodated by railways beyond what was formerly provided for.

The following is a statement of the principal items of Railway Merchandize traffic in the year 1847:—

Items of merchandize traffic in 1847.

Name of Articles.	Carried by Railways in 1847.
Coals and Coke .....	8,900,000 tons.
Ironstone .....	600,000 "
Iron .....	300,000 "
Iron dross .....	110,000 "
Copper and Tin.....	23,000 "
Limestone and Lime.....	300,000 "
Building Stones.....	600,000 "
Sand .....	37,000 "
Ballast .....	36,000 "
Bricks and Tiles .....	5,000 "
Miscellaneous Minerals .....	300,000 "
Fish .....	43,000 "
Grain .....	300,000 "
Provisions .....	600,000 "
Manure .....	40,000 "
Goods, Timber, and Sundries .....	4,705,382 "
TOTAL.....	16,699,382 "

\* Railway Commissioners' Report for 1848, p. 44.

Traffic created by railways.

Many of these items of traffic have been positively created by railways—the facility of transporting the articles from one district to another not having existed prior to their formation.

**Fish traffic.** This is peculiarly the case with Fish, which is an article of a perishable nature. Previous to the formation of railways, most of the inland towns of the country were badly supplied with fish, and at high prices. Now, most of these towns are well supplied, and a large quantity of fish is regularly carried to them by the railways, to the advantage of trade as well as to the benefit of the public. As regards this article of consumption, railways are to be looked on as positively increasing the supply of food to the country at large. Birmingham, a large inland town, affords an instance of the advantages of railways in this respect. In 1829, before the railway communications of that town were opened up, there were only ten fish merchants in the place, whereas now there are upwards of fifty; and a large fish-market has been established, the accommodation of which it is already found necessary greatly to enlarge. The quantity of fish consumed by the inhabitants has increased from 400 tons in 1829 to upwards of 5000 tons in 1847. All the midland towns which have the advantages of railway connection with the sea-coast, are now equally well supplied with fish, and it has entered largely into the general consumption, whereas formerly it was only a luxury for the few. The fisheries have received a great stimulus from the extensive demand which has arisen for fish, and large numbers of additional hands are now employed in the trade along the sea-coast. The Norfolk Railway derives a large revenue from this article of traffic. In 1847, there were conveyed along this line, to London, 315,917 packages of fish (chiefly herrings) averaging about 40 lbs. each, and to the country, 43,670 packages,—the revenue derived from which was £12,912 in that year. The South Western, Brighton, York Newcastle and Berwick, Eastern Counties, Great Western, and other lines connected with the sea, are deriving a large and increasing revenue from the same description of traffic. The fish traffic on the South Devon branch of the Great Western amounts to about £250 a-week.

**Cattle traffic.**

Another description of traffic created by railways is the Cattle Traffic. It was a remarkable discovery made by farmers, that by converting their cattle and stock into railway passengers, they could effect a considerable saving in getting them to market, and sell them when got there at a better price. The saving in weight alone has been found equivalent to the cost of transmission. The agriculturist has also obtained the great advantage of a choice of markets with the least possible loss of time; by means of the railway the Scotch grazier can carry the cattle which he has failed to sell in the market at Edinburgh, directly southwards, and sell them in Newcastle or Yorkshire the following day. The *Perth Courier* mentions the sensation produced in that neighbourhood by the announced arrival in London of a large lot of cattle within twenty-four hours of their leaving Perth. The

Cattle traffic of railways is steadily and rapidly increasing; and before long the whole of this description of traffic will be conveyed by railway.

The saving in weight, by conveyance of cattle on railways, is very great—being calculated at not less than 43,800,000 lbs. on the cattle, sheep, and swine conveyed in 1847 alone! The saving by railway conveyance is calculated by experienced butchers at not less than 40lb. per beast, 8lb. per sheep, and 20lb. per swine. The following table will show the rapid progress made by this description of traffic during the last few years, the only falling off being in swine—doubtless in consequence of recent Irish distress.

Saving in weight of meat by railway conveyance of cattle.

Total number of cattle conveyed in 3 years.

Years.	Cattle Carried.			Receipts.
	Cattle.	Sheep.	Swine.	
1845	236,000	1,200,000	550,000	£102,000
1846	370,000	1,250,000	850,000	167,000
1847	500,000	2,000,000	390,000	183,000

It will be observed that the increase in cattle is more than 100 per cent., and on sheep nearly 70 per cent., in two years. The increase of Cattle traffic on the London and North Western Railway has been very great. In 1845, 61,466 cattle and 229,245 sheep were sent on the railway; and in 1847, the numbers were 161,171 cattle, and 389,998 sheep. This is an amazing increase within so short a period.

Yearly increase in cattle traffic per cent.

A new trade, connected with the above, has also recently been created by the railways, namely a trade in country-killed Meat carried on by the London with the country butchers. Large quantities of country-killed meat are now sent to London for sale; much of it is from Scotland. The electric telegraph is employed in the ordering of meat; such a message as the following traversing the wires—"Send up 600 or 700 stone of fore and hind quarters of mutton;" and such is the despatch used, that Mr. Hicks, a London salesman, says that on an order of this kind being recently given to a butcher at Ipswich, the required quantity of meat was in his premises in Newgate Market, for sale, on the following morning by five o'clock, having been alive on the day before.

Trade in country-killed meat.

Not only this, but the country butchers are buying their meat from London, which is becoming the centre of the meat trade. The country south of London supplies itself with meat from the London market; and even Birmingham market is in a great degree supplied from London through the medium of the railways. The traffic connected with cattle promises to continue an increasing and remunerative branch of railway industry.

London becoming centre of a country trade in meat.

**Influence of railways on agriculture.** The influence of railways on Agriculture is only beginning to be felt, and the full value of agricultural traffic to railways remains yet to be realized. Railways passing through the rural districts require a longer time for their due development than those passing through the densely populated manufacturing districts. The agriculturists are a slow class, and backward at adopting new improvements, though to their manifest advantage. The immense benefits of railways to agriculture will, however, force themselves upon the notice of the farmers; and in the progress of the science of farming—for science must yet force itself upon the land—railways cannot fail to receive an immense accession of traffic. At present, the Eastern Counties Railway carries on a traffic chiefly of an agricultural description, and it is very great. To give an instance of one week in September, 1848, there were carried on this railway—529 beasts, 73 calves, 5598 sheep, 865 pigs, 17,711 sacks of grain and malt, 6578 sacks of flour, 197 tons of meat, 37 tons of poultry, 332 tons of fish, 648 tons of fruit and vegetables, 229 tons of beer, 73 tons wine and spirits, 19,608 quarts of milk, 59 cwts. of bread, &c., &c.

**Lime traffic.** Since agricultural improvement set in, Lime has been very largely used for purposes of cultivation, and the use of it is rapidly increasing with the extension of railways. 300,000 tons were carried by railway in 1847 chiefly for agricultural purposes. It is calculated that 6 cwt. of lime are required yearly to keep each acre of land in good condition, besides what may be laid upon it when first improved; and as in England and Scotland the number of cultivated acres is 34,000,000, this would require yearly a supply of 10,000,000 tons of lime.\* Here is a large prospect of traffic for the new railways, as well as the old. Drain tiles for agricultural purposes also promise to be a rapidly increasing article of traffic.

**Manure traffic.** Manure traffic is also a creation of railways. The manure of large towns which is now allowed for the most part to run to waste, is sufficient to raise food for many millions of people. It is calculated that the manure which yearly flows into the Thames from the city of London alone, is competent to the production of food for not less than a million of population. Some towns are beginning to collect and distribute their manure over the country through the medium of the railways. The corporation of Newcastle has already set a good example in this respect, having undertaken the collection of the town's manure, which is sent along the railways branching out from that town, and delivered in the agricultural districts at 2s. 6d. per ton. The farmers of Northumberland use the whole of it, and the demand is far beyond the supply. Guano has recently been a considerable article of traffic on some of the lines in agricultural districts; but the manure of the large towns promises to be a far more lucrative source of traffic: only 40,000 tons were carried in 1847. Sand is also used in some districts for agricul-

\* "*Irish Wants and Practical Remedies*," by Humphrey Brown, M.P., p. 26.

tural purposes ; the Bodmin and Wadebridge Railway (Cornwall), carried 15,000 tons for this purpose in 1847.

Among the articles of merchandize traffic carried principally for the use of the inhabitants of towns, and from which the greatest increase is to be anticipated, are corn and provisions of all kinds,—raw materials of manufactures, such as iron, copper, and other minerals,—timber, building stone, bricks, sand, lime, &c., manufactured goods,—and coal and coke.

General  
merchandise  
traffic.

The quantity of Corn carried has hitherto been irregular, depending considerably upon the amount of foreign grain imported. In 1847 the quantity of corn and meal carried upon railways amounted to at least 300,000 tons ; and as, under the operation of the new corn laws, a steady importation of corn may be expected from abroad, a considerable increase of traffic in this article may be anticipated. In 1847, not less than 117,312 tons of grain and flour were carried over the Lancashire and Yorkshire Railway alone ; the revenue derived from which amounted to £36,260. The Norfolk Railway in the half-year ending June 30th, 1847, carried 17,771 tons.

Corn  
traffic.

In the articles of Vegetables, Fruit, Poultry, Eggs, Butter, and Milk,\* an immense and lucrative traffic has already sprung up, and which is capable of great extension. About 150,000 tons of these articles are annually sent from the country to the metropolis upon the railways. Large quantities of the same articles are also now imported from the continent, and distributed by the railways all over the country—butter from Holland and Flanders, fruit from Holland, Germany, and France, poultry and eggs from the whole north of Europe, oranges and grapes from the south of Europe ; and already a large trade in lean cattle has sprung up with Denmark, Germany, and Norway. In 1847, the number of live animals imported for consumption was 216,456 : and a large increase may be expected.

Provision  
traffic.

The traffic in Building Stone is a large and increasing traffic, not less than 600,000 tons having been carried in 1847. 100,000 tons were carried over the York and North Midland Railway in 1846, and about an equal amount in 1847.

Traffic in  
building stone.

Coal and Coke form one of the most important and lucrative branches of railway traffic. Coal is a necessary of life in all districts, and wherever railways have penetrated, they have greatly reduced the price of this article to the consumer. They have entirely broken up the old canal monopolies in coal, while they have largely added to their own revenue by bringing it more within the reach of the mass of consumers, and also facilitated the carrying on

Coal and  
coke traffic.

\* The Grand Junction Railway realizes more than £4000 a year from their Milk traffic alone.



of manufacturing and industrial operations in all directions. The amount of coal carried in 1847 on the railways was 8,900,000 tons, and the revenue derived therefrom about £700,000. The average rate of carriage is rather under 1½d. per ton per mile.

The traffic in Coal is an increasing one, and the ratio of increase will continue while new railways become opened up into districts not yet penetrated by them. At present the metropolis is supplied mainly by about 3,500,000 tons imported by sea yearly, but the opening of the Great Northern Railway is expected to effect an entire revolution in this branch of trade, there being little doubt entertained but the great supply of coal for the consumption of London will then be carried over that line. That company will be enabled to bring coal from the Yorkshire coal-field, and sell it at the station in London at 17s. a ton. Mr. Pease, of Darlington, is satisfied as to the practicability of carrying Durham coal to the metropolis by the same route, so as to compete successfully with the sea-borne coal. The immense saving in money to the population of the district traversed by the railway as regards this article, need scarcely be pointed out.

The principal coal lines are those extending from and through the county of Durham, the Midland, London and North Western, and Caledonian Railways. The revenue of the York and Newcastle Railway from coal alone in 1847, was £112,858, and this although the export trade in coal was in a very depressed state in that year: the total amount carried was 1,654,029 tons; the Stockton and Darlington Railway carried 911,645 tons; the Stockton and Hartlepool, 544,498 tons; the Midland, 481,344 tons; the London and North Western, 440,000 tons; the Caledonian, 335,319 tons.

The Coke traffic is an increasing one, being dependent mainly on the demand of the railways themselves. The principal coke lines are the York and Newcastle, the York and North Midland, and Midland Railways. The coke manufactured in the county of Durham is so superior to any other manufactured in England for locomotive purposes, that it is now in general use all over the country. Hence the large revenue of the railways named, from their coke traffic, the increase of which has been proportionate to the extension of the railway system. The following increase will show this :—

	1844.	1845.	1846.	1847.
Midland .....	26,826 tons	29,767	57,015	78,246
York and North Midland ———	...	16,013	50,785	93,899

The Midland receipts from coke traffic in 1847 were £24,198, and the York and North Midland £7,792, the latter having comparatively a short run for the coke carried upon it.

The total Goods traffic of 1847, as we have shown in the table given at page 21, was 16,699,382 tons, of which about 11,200,000 consisted of mineral traffic. But to show how small a proportion of the whole merchandize traffic of the country has yet come upon the railways, and to indicate the great source of future increase of railway traffic, we give the following statement of items in the consumption of the people of Great Britain, a large part of which must inevitably come upon the railways when the new lines have been constructed, and all the sources of traffic have been thoroughly developed:—

Total goods  
traffic of 1847.

Goods traffic  
not yet brought  
upon the rail-  
ways.

Corn .....	3,000,000 tons.
Potatoes .....	3,000,000 "
Sugar .....	300,000 "
Tea, Coffee, and Tobacco .....	50,000 "
Butter, Cheese, and Provisions .....	57,000 "
Malt .....	400,000 "
Spirits .....	100,000 "
Paper .....	40,000 "
Soap .....	90,000 "
Candles .....	100,000 "
Raw Cotton and Wool .....	350,000 "
Cotton Goods .....	250,000 "
Woollens .....	100,000 "
Flax and Hemp .....	100,000 "
Linen Goods .....	100,000 "
Iron .....	1,600,000 "
Glass .....	40,000 "
Coals .....	30,000,000 "
Salt .....	650,000 "
Timber .....	2,000,000 "

TOTAL..... 42,327,000 tons.

### III.—PAYING QUALITIES OF RAILWAYS.

Cost of Construction—Revenue requisite to pay five per cent. on capital expended—Arbitrary imposition of maximum rates by Parliament—The consequence to the public of enhanced cost of Railways. *Working Expenses*: Expense of coke—Consumption of coke—Consumption of coke by different locomotives—Economical working of London and South Western Railway. *Locomotive power*: Resistance of ascending gradients—Compensation of descending gradients—Working expenses greatly affected by the rate of *speed* maintained—Mr. N. Wood's estimate of speed and weights hauled—Causes of cheap working of foreign lines—Tear and wear of permanent way by high speeds; opinions of engineers—Both public and railway companies interested in lower speeds in travelling. *Branch Railways*: Cost of working—Where the formation of branches is not justifiable—Formation of branch lines in certain cases rendered unavoidable—Populousness of Railways a paying quality—Through traffic less productive to Railways than local traffic—Character of the passenger traffic of Yorkshire and Lancashire—Average of miles travelled and fares paid by passengers of all classes in one year—Short traffic of Railways the largest—Passenger traffic in agricultural districts—Evidence of Mr. Peto—Pleasure lines. *Merchandise* and other traffic: Coal traffic of Railways—Goods and coal a paying traffic—Advantages of Railway companies carrying on their own account.

THERE are several important circumstances to be taken into consideration in forming an estimate of the paying qualities of any particular line of railway. The most important of these are,—the Cost of Construction, the Working Expenses, the number of Branches worked in connection with the main line, and the description of Passenger and Goods traffic carried.

THE COST OF CONSTRUCTION.—It is very clear that a line of railway which costs £40,000 per mile in its construction, will require a much larger traffic revenue to pay a dividend of say five per cent. to its proprietors, than one that has cost only £20,000 per mile. If we take the working expenses at 40 per cent. on the gross traffic receipts, the following revenue will be required, per mile per week, to pay a dividend of five per cent. on the following lines:—

#### *To pay 5 per Cent.*

Revenue requisite to pay 5 per cent. on capital expended in construction.		A line that has cost £10,000 per mile will require a weekly average revenue per mile of railway of £16 0s. per mile.				
		20,000	32	0	0	0
		30,000	48	0	0	0
		40,000	64	0	0	0
		50,000	80	0	0	0
		60,000	96	0	0	0
		70,000	112	0	0	0
		80,000	128	0	0	0
		100,000	160	0	0	0

The following calculation by Mr. H. Williams, the actuary, puts the matter in another form:—

	Total yearly traffic, number of passengers or tons of goods.	Original cost of construction £15,000 per mile.	Original cost of construction £20,000 per mile.	Original cost of construction £25,000 per mile.	Original cost of construction £30,000 per mile.
Fixed charge per mile on every passenger or ton of goods, requisite in order to give common interest at 5 per cent. on the outlay.	90,000	1.00d.	1.33d.	1.66d.	2.00d.

It is clear therefore, that a line which costs £30,000 a mile, must either have double the traffic, or charge double the fares on the same traffic, as compared with the line that has cost only £15,000 a mile. The legislature, however, binds down all railway companies to a uniform charge of 1d. a mile for parliamentary trains, and restricts the charges by ordinary trains, imposing maximum rates, without regard to whether the line has cost £80,000 or £15,000 a mile; a course of policy, which in our opinion savours strongly of injustice. But there can be no doubt that ultimately the public must consent to pay such fares as will yield a fair remuneration to those who invest their capital in railway undertakings. Railways in this respect are like all other commercial concerns; and they are entitled to such charges as will secure to them the rate of profit which trade sanctions in this particular investment.

“The more that railways cost,” says Mr. W. Harding,\* the greater will be the capital on which such average return or profit will have to be earned; and the greater the returns required, the higher necessarily the charge to those who use the railway. To take a case—

Mr. Harding's view of the effect of enhanced railway construction.

“If a certain number of miles of railway cost, in consequence of the expense thrown upon them by Parliament, or the folly of their constructors, fifteen millions, which need otherwise have cost only ten millions, and if 6 per cent. be the ultimate average rate of profit for which people are willing to invest capital in constructing railways, it is clear that the public using this railway must pay more (by three hundred thousand a-year) to pay 6 per cent. on fifteen millions than on ten millions. \* \* \* The effect of extravagance, of course, falls first and most heavily on the owners of the railways; and although the laws of trade must ultimately vindicate themselves, and the charges be determined on the principles explained above, the first projectors of the railways may be ruined in the meantime. The success and profit of each individual Railway Company will therefore depend mainly on the economy

\* “Facts bearing on the progress of the Railway System.”—*Statistical Journal* for November, 1848.

of construction and working; but both the public and the proprietors of railways are alike concerned in enforcing that economy."

The **WORKING EXPENSES** of a line of railway are affected by these circumstances more especially:—1st. The cost of the coke consumed by the locomotives employed in **working** the line;—2nd. The weight and power of the locomotives, which are in proportion to the steepness of the gradients to be overcome, and the weight of the traffic to be worked;—3rd. The speed maintained by the locomotives in the working of the traffic;—and 4th, The number of branches worked in connection with the main line.

**Expense of coke.** 1. The average distance daily run by a locomotive in full working order, is about 120 miles; and the average expenditure of coke by the heavy locomotives now in general use—is, on passenger engines 35lbs., and luggage engines about 40lbs. to the mile. Each locomotive engine in full work upon a line of say 120 miles will therefore consume on an average about 700 tons of coke yearly. The usual estimate for working efficiently a main line of railway, is, one locomotive for every two miles of way. Take, therefore, say 30 passenger engines consuming daily 35lbs. per mile for 120 miles, and 30 goods engines consuming 40lbs. per mile for the same distance; and we thus get at a gross consumption of 120 tons of coke per day, or upwards of 40,000 tons yearly. And if we take the average cost of the coke consumed upon English railways at 18s. a ton (which will be found to be a low average) this consumption will represent an expenditure upon the article of coke alone, on a line of 120 miles in length, of about £35,000 per annum. On the southern lines of railway, the cost of coke per ton is much higher than the sum above named. At Birmingham, it costs about 22s. a ton; and at London 25s. a ton; so that the working expenses of railways lying far apart from the principal coking districts,\* are on this account proportionately increased.

**Locomotive power on the Liverpool and Manchester Railway.** If the number of miles run by each locomotive is less than the distance we have named (120 miles) then the number of locomotives required to work the line will be greater in proportion. Thus, on the Liverpool and Manchester Railway, of about 30 miles, there were, in 1845, 41 locomotives at work; and in the six months ending June 30, these engines had run 282,146 miles, or an average of about 38 miles per day for each engine.

\* The superior qualities of the Durham coke have already brought it into general use upon nearly all the railways in Great Britain. It is remarkably pure, and free from sulphur, contains the smallest possible quantity of non-combustible material, and though necessarily much higher in price on those railways distant from the county of Durham, than the coke manufactured in their immediate localities, its use is ultimately found much the most economical. Most other kinds of coke have a considerable admixture of sulphur, which proves very destructive to the tubing of locomotive boilers; and though the expenditure on the Durham coke may be more, this is more than compensated for by the increased heat generated, the smaller amount of dead-weight carried, and the great saving in locomotive repairs.

The consumption of coke by locomotives of different build is very remarkable. The long boiler engines (Stephenson's patent) consume the greatest quantity of coke, without corresponding increase of power. The great length of the tubes requires a stronger draught in the chimney, which involves a considerably larger consumption of coke.

Consumption of coke by different locomotives.

We have now before us an authenticated return of the consumption of coke by two Passenger Engines now at work on a Yorkshire Railway,—which engines we shall distinguish as No. 1 and No. 2. No. 1 is a short boiler, No. 2 a long boiler engine. No. 1 has 173 tubes 10 feet 4 inches long, and contains a surface exposed to the fire of 734 feet: No. 2 has 106 tubes 14 feet long and the heating surface is 689 feet: the dimensions of the heating surface of the fire boxes are the same in both engines—from 76 to 77 feet. No. 1 has 16 in. cylinders, and No. 2 only 15 in. cylinders. Notwithstanding this latter circumstance, which is to the disadvantage of No. 1 as regards consumption of fuel—for the larger the cylinder the greater the steam consumed—the difference in the consumption of fuel is greatly in favour of No. 1, which consumed 30lbs. per mile, whereas No. 2 consumed 37lbs. per mile—raising of steam in both cases included. The coke consumed upon the line of railway on which the two engines referred to are now at work, is 12s. 6d. a ton. If we take a year's performances of these two engines, we shall find, that the expenditure of coke requisite to keep them at work, at the average rate of 120 miles a day, is as follows:—

Difference in the consumption of long and short boiler engines.

No. 1 would consume 3600lbs. a day, or 586 tons in the year.	Cost of Coke .....	£366	5
No. 2 would consume 4440lbs. a day, or 723 tons in the year.	do. do. ....	452	7
Annual difference in favour of No. 1 Engine .....		£86	2

If we take 12 years as the average duration of a locomotive at regular work, we find that the extra cost of working the No. 2 engine as compared with the No. 1 engine, is £1033 4s., or equivalent to about one-half of its original cost; and if we take a line of 120 miles in length, we find that the annual cost of working it by 60 engines of the No. 2 build, will be £5166 more than by working it with engines of the No. 1 build. Here, therefore, we have a striking exemplification of how far the working expenses of railways may be economized by the build of the engines used upon them—a question heretofore too much overlooked by engineers, in their ambitious efforts to keep up the speed of engines on the narrow guage with that on the Great Western Railway. Of course where the cost of coke is greater than in the above instance, the additional expenditure on the long-boiler engines will be so much the greater.

Mr. Gooch, the locomotive engineer of the London and South Western Railway, has directed his attention to the subject of economising the working expenses of that line, with the happiest effects. The average cost of the coke used on that line is about 26s. a ton; and this circum-

Economical working of London and South Western Railway.

stance has probably contributed to enforce economy on this point. Mr. Gooch has employed a compact short-boiler engine of 10 feet tubes with 14½ in. cylinder, 21 in. stroke, and 6 feet 6 in. driving wheels—to work his express trains, and he has thus succeeded in keeping the consumption of coke at only 20lbs. per mile. On the Richmond branch (and it must be considered that the shorter the branch the greater the average of coke consumed), the consumption of coke has in the same manner been kept down to from 20lbs. to 23lbs. per mile. The average cost of working the passenger trains on the London and South Western Railway last year, averaged only 10d. per mile, and the goods trains 1s. 2d. And we perceive, from the recent financial statement of that company, that they calculate on being able shortly to bring down their working expenses to 35 per cent. of the gross traffic.

Greater cost  
of locomotive  
power on lines  
of heavy gra-  
dients.

2. The LOCOMOTIVE POWER requisite to work a railway efficiently, must be in proportion to the weights to be drawn and the resistance to be overcome. A railway of flat gradients is thus more easy to be worked, than one on which the gradients are steep. Heavier and more powerful engines are required for the latter in the first place, involving an extra expenditure on locomotive power. Sometimes a bank engine is employed exclusively in working these inclines, which are heavier than the average: here is an outlay on plant equivalent to a large capital—each such engine and its annual expenses representing a fixed capital equivalent to about £15,000. Assistant engines are also required for particular parts of a line of steep gradients—which involves so much yearly increase of working expenses. Where the gradients of a line are generally heavy, all the engines used upon it are of a heavier kind, and made to consume a larger quantity of coke. The difference in the cost of working a flat line and a line of steep gradients is thus considerable—greater, of course, in proportion to the price of the coke used.

Resistance  
on ascending  
gradients.

It has been stated, that to master an ascending gradient of 1 foot in each 300 feet of distance, a traction force is required twice as great as is sufficient to move the same load at the same speed along a level railroad.\* When the ascending gradient is 1 in 150, the force required is *three* times, when 1 in 100 *four* times, and when 1 in 75 *five* times, the amount required to be used on a level.

Increased  
power of the  
locomotive.

There is now no difficulty experienced in working gradients of the degrees above named with the locomotives ordinarily in use. The power and weight of engines has been largely, sometimes unnecessarily, increased, of late years. Gradients that were considered impracticable some ten years ago, and were worked by means of fixed engines, are now regularly and safely

\* Nicholas Wood's work on Railways. It has since been ascertained that a gradient of 1 in 260 is the measure of half the power of the locomotive.

worked by ordinary locomotives. But these locomotives being more powerful, and involving a larger consumption of coke, and tear and wear of permanent way, it is clear that the working of the line of flat gradients will on the whole be always more easy and economical than the working of a line of steep gradients. It ought also to be admitted, however, that the extra consumption of coke that is required in ascending a heavy gradient, is in some measure compensated for by the saving of coke in descending the corresponding gradient on the other side.

Intimately connected with this question is that of

3. The **SPEED** maintained by the locomotives in the working of the traffic. The greater the speed is, the greater must be the power of the locomotives used, the greater the expenditure of coke, and the greater the tear and wear of engines, working stock, and permanent way. A good locomotive, of the heavy kind now used, will draw a train of fifty loaded waggons, or a gross weight of say 375 tons, at a speed of from 15 to 20 miles an hour; but the same engine will only be able to draw on the same line, a train of 25 waggons, being half the above weight, at a speed of 30 miles an hour. Thus it appears that the 30 mile speed costs double the slower speed of 15 to 20 miles, besides the great tear and wear that is inevitably produced by the more rapid traffic.

Working expenses affected by the speed maintained.

Mr. Nicholas Wood gives the following table of the number of tons that can be drawn by a locomotive at various speeds, which bears out the above view; only it should be added that the power of the locomotive has been very largely increased since Mr. Wood's book was published—though the general principle applies in exactly the same degree :—

Mr. Wood's estimate of speed and weight hauled.

Rate of speed in miles per hour.	Load in tons that can be drawn by a locomotive of ordinary power.
10	250
12½	184
15	138
17½	106
20	83
22½	65
25	50
27½	38
30	28

Thus, the engine that at 15 miles an hour would draw 138 tons weight, would at 25 miles an hour draw no more than 50 tons, and by adding another 5 miles to the speed, its capability would be lessened to 28 tons. Mr. Locke gave a low estimate of the extra expenditure incurred by rapid traffic on railways, when he said—"I should think it will cost about *one-third more* to work a train at 40 miles an hour than at 16."\* Mr. Robert Stephenson was very much nearer the mark when he said—"If we convey heavy goods at 15 miles an hour, I believe it will reduce the cost of conveyance to *considerably less than one-half* of what it is now."†

\* Evidence in Appendix to Gauge Commissioners' Report, p. 347.

† Evidence given before the Stour Valley Railway in 1846.



**Causes of cheapness of working for-  
eign railways.** The great cause of the cheapness of working the American and Continental lines, as compared with those of England is, their fewer trains and slower rate of travelling—the people of those countries are satisfied if they can travel at 15 miles an hour, whereas we feel aggrieved if we cannot travel at 25 or 30 miles an hour. Mr. Reed, in his evidence given before the Railway Acts Enactments Committee in 1846, speaking of the cause of the cheaper fares charged on French railways, said:—

“In France we take our passengers in large masses. The expense to the railway company is so much per mile per train: we (the Paris and Rouen Railway) take 180 passengers per train; I believe it will be found that in England the number carried per train does not average half that number. It is perfectly clear, therefore, that we can take passengers cheaper than they can take them in England, as we go with fewer trains, and take a larger number of passengers per train; the cost of conveying 90 passengers or 180 passengers being to the railway company the same.”

The rate of passenger trains in France is only 20 miles an hour, and the fourth-class trains go at only 10 miles an hour. The smaller number of trains and the lower speeds are thus the causes of the cheaper working and the cheaper fares of the French railways: Mr. Reed subsequently showing that the working expenses of the Paris and Rouen Railway amount to only 16 per cent. of the gross receipts of the railway. The amount of working stock required to work the lines in France is also very much less than in England, in consequence of the fewer passenger trains and lower speeds.

To keep up high rates of speed we require to use much heavier and more expensive locomotives (the price having risen from £1400 to £2400 per engine), involving also a much larger consumption of coke for the production of a more intense heat, by which the tubes are apt to

**Tear and wear of permanent way by high speed.** be burnt, the machinery is thrown out of order and requires more frequent repairs, and the whole machine becomes sooner worn out. To accommodate engines of from twenty-four to twenty-eight tons weight,—equal to those now used on the broad guage lines—nearly all the narrow guage lines in the country have had to be re-laid with rails of from 75 to 86lbs. per yard, instead of from 35 to 50lbs. And

**Opinion of Mr. R. Stephenson, &c.** Mr. R. Stephenson has given it in evidence, that with the present speed, “no permanent way in existence, broad or narrow, will stand long. The wear and tear of the rails

✓ has been, in my opinion, nearly as the square of the speed. This increase of speed is a direct and large sacrifice of the profits of railway companies.”\* And before the Railway Acts Enactments Committee in 1846, the same gentleman said that—

“As you increase the speed, it is not merely the engine that comes into play, but it is the railway itself, of which you have to meet the damage. As you increase the speed of the engines you increase the cost of the locomotive power, but the expense does not end there; it is in the maintenance of the road that those increased speeds are chiefly felt. The mere wearing away of the iron rails is not worth notice; it is the maintaining the supports in their place, and maintaining the levels. Instead of having two men per mile, I have known increased speed on a railway involve four instantly. It tells in two or three days.”†

\* Evidence given before the Stour Valley Committee in 1846.

† Select Committee on Railway Acts Enactments, 1846.—*Evidence*, p. 194.

Mr. Saunders, Secretary to the Great Western Railway Company, gave evidence before the same Committee to the same effect. He said—

“The repairs of the road will probably be increased in the same proportion in which the speed is increased. You must have more surveillance of the road for very quick trains, and you must have a more complete system of police.”\*

Mr. M'Connell is of opinion that the injury to the permanent way is more caused by the high velocity than by the weight of the engines. Mr. Hawkshaw again, attributes the tear and wear of the rails mainly to the great weight of the engines now used in order to keep up the high speeds. He says—“We have found now that we have got to the extreme size and weight; the rails are all crushing beneath the present size of the engines.”†

Opinions of  
Mr. M'Connell  
and Mr.  
Hawkshaw.

The public have an interest in railway traffic being conducted at a much lower speed, because of its greater safety; and railway companies have also a strong interest in it, because of its greater economy. Railway companies could afford to carry merchandize and coal at even lower rates than they do at present, and to derive a larger profit for themselves, were the speed considerably reduced. It would be a proper subject for arrangement among the heads of railway companies, whether some such reduction in speed should not forthwith be effected.

Public and  
railways inter-  
ested in lower  
speeds.

**BRANCH LINES.**—The working of branch lines is generally costly. Separate locomotives have to be set apart for the purpose of working them, and the traffic is generally a short traffic requiring little engine power, though there is the same expense to be incurred in firing up, keeping up the steam, men's wages, &c., as in the case of the long traffic on the main lines. Hence the working expenses of those railways which have many branches running into them, are much higher than those which have fewer branches. In the case of the Lancashire and Yorkshire Railway, the working expenses average annually £1,825 a mile; whereas those of the Newcastle and Carlisle amount to only £517 a mile. The line of the Lancashire and Yorkshire Railway, however, is so densely populated and the traffic receipts are so large,—a considerable proportion of which is derived from the branch traffic,—that the *per centage* of working expenses calculated on the gross receipts, is actually lower than in the case of the Newcastle and Carlisle Railway—being 32 per cent. in the one case, and 39 in the other. Here, therefore, we have an instance of the construction of branches justified by the result—the immense additional traffic which they bring upon the main line keeping the per centage of working expenses of the whole railway considerably below the average.

Cost of work-  
ing branches.

Working  
expenses of  
the Lancashire  
and Yorkshire  
Railway.

\* Select Committee on Railway Acts Enactments, p. 163.

† Evidence before the Guage Commissioners, 1845.

Where the formation of branches is not justifiable.

Where, however, there is no large population to be accommodated by the formation of a branch, or no large local traffic to be secured thereby, the formation of a branch line will be found an inexpedient measure, on account of the large proportion which the working expenses bear to the profits derived from the branch traffic proper. It is said, however, and with justice, that it is not merely the profit derived from the traffic upon the branch alone that is to be taken into account; but the profit derived from the same traffic when brought upon the main line, to which all branches act as feeders. The traffic of the whole concern is thus increased by the traffic created on the branches running into the main stream. It is clear however, that this formation of branches may be carried too far,—that branches may be formed to accommodate traffic which would come upon the main line whether they were formed or not; and if the expense of forming them be great, and the population along the branch is small, in most cases they will be found burdens instead of helps to railway prosperity. After all, the formation of branches must be a matter of calculation, based on the population, productions, and requirements, of the districts to be accommodated. It has been stated by men of considerable knowledge of railway capabilities, that all branches through districts of average population, will pay, if they can be constructed at a cost of £10,000 a mile; and we believe the result of the experience of most railway companies has sufficiently proved the truth of this remark.

Working expenses of branch railways per mile.

The locomotive expenses per mile per passenger train on a main line of railway, when the price of coke is moderate, as for instance, in the county of York,—amount on an average to within a fraction of 13d. per mile—(this is for locomotive power and guard); but upon a branch line connected with such main line, of say 4 miles in length, and on which four trips per day are made, or 32 miles run—the working expenses per mile would amount to not less than 19d. per mile. This is on the supposition that the branch line is worked with a light engine, suitable for its traffic, and consuming only 18 or 20lbs. of coke per mile. And while the working expenses per mile are so much heavier than on the main line, the number of passengers carried, and consequently the receipts per mile, are very much less. In this way it happens that branches occasionally cost the company from six to eight times more, in proportion to their traffic receipts, than the main line of railway; and there are cases in which they do not yet pay more than their working expenses. If the branch be longer, say ten miles, and the traffic so considerable as to warrant five trips a day being made, or equal to 100 miles run, then a branch can be worked at little more than the average expense of the main line.

The large increase of the working expenses consequent upon a number of short branches of limited traffic, worked in conjunction with a main line, will be sufficiently obvious; and unless the population to be accommodated by a branch is very considerable, or there be a prospect of a large mineral or goods traffic, such branches should not be formed.

In many cases, however, their formation has been rendered almost unavoidable by the circumstance of the railway companies when first forming their lines, having been compelled, either by the opposition of the inhabitants of the towns, or by the opposition of landowners, or by the mistakes of engineers, or by the blunders of Parliamentary committees, to pass populous towns at a distance, but were afterwards, so soon as the public had ascertained the immense benefits derivable from railway connection, under the necessity of constructing branches for their accommodation at great additional expense. These branches are a serious burden upon railways; and involve a large extra cost to the public, on whom the additional expense of maintaining and working them, must eventually fall.

Formation of branch lines in certain cases unavoidable.

**PASSENGER TRAFFIC.**—An essential quality in a paying line of railway is, that its termini rest upon large populations, or that it passes through districts well populated. Railways of either kind, with a large population situated at both termini, or well populated along the line of railway, cannot fail to command a paying traffic. The London and Birmingham, Liverpool and Manchester, Edinburgh and Glasgow, London and Bristol (Great Western) Railways, are examples of the former kind; the Manchester and Leeds (Lancashire and Yorkshire), East Lancashire, Eastern Counties, and Edinburgh and Northern, are examples of the latter. And there are lines of the mixed class, resting on towns of large populations, and also passing through districts well populated, such as the York and North Midland,—York, Newcastle, and Berwick,—Great Northern,—Leeds and Thirsk,—and others of similar character, constituting a third or mixed class, of good paying qualities.

Populousness of railways as a paying quality.

A great fallacy prevailed during the railway mania, that the essential point requisite for a paying line of railway, was, that it should have two large towns for its termini, no matter what the distance which lay between them,—hence we had London and Leeds, London and Manchester, Newcastle and Glasgow, and such like lines projected. Now, experience abundantly proves, that except in a very few of the through lines of railway,—such as the London and North-Western (which may be regarded as the great highway from the metropolis to Lancashire, Ireland, and the west of Scotland), and the Midland, Great Northern, and York, Newcastle, and Berwick lines (which, in the same way, may be regarded as the great highway from the metropolis and the southern counties, to Yorkshire, Durham, Northumberland, and the east of Scotland), the railways of the kingdom generally must depend mainly upon their *local* traffic—upon the traffic from town to town, and even from village to village,—for the chief part of their revenue.

Through traffic much inferior to local traffic.

The number of through passengers booked on all lines of railway, forms but a very small part of the total number of passengers booked at the various stations. Manchester and Leeds are two excellent termini for a railway, and it might be supposed that the through passenger traffic between

Character of the passenger traffic of Yorkshire and Lancashire.

those two places would be very considerable. Yet it is the most considerable part of the passenger traffic, which is more of the character of "omnibus traffic:" many passengers are taken up at one station and set down at the next,—the Yorkshire traffic is distinct from the Lancashire traffic; as the trains pass through the tunnel under Blackstone-edge the passengers are generally reduced to their smallest number,—then a new influx takes place at Littleborough and Rochdale, and continues down to Manchester. The same features are discernible, in a greater or less degree, on most other lines of railway.

Mr. Booth stated before a parliamentary committee in 1846, that the short traffic on the London and North Western Railway was increasing rapidly; that during the year 1845 it averaged 64 miles for each passenger, but in 1846 it had fallen to an average of 56 miles.

Of the traffic of the North Midland Railway, Mr. Hudson said before the same committee, that "the amount received for the through traffic between London and York was very trifling compared with the receipts of the whole line," and that "the traffic was very much of a local nature."

Mr. Saunders says "the traffic of the Great Western Railway is very much made up of short traffic,"—as, for instance, between Reading and London, and between Bath and Bristol.

Of the 840,365 passengers carried on the London and South Eastern Railway in 1845, 184,603 passengers travelled under six miles, and 141,347 between 6 and 20 miles. The highest per centage of through passengers in 1845, was—first class ( $30\frac{1}{4}$  per cent.), next second class ( $19\frac{1}{4}$  per cent.), and lastly third-class ( $6\frac{1}{4}$  per cent.).

The following Table has been compiled from the Railway Commissioners' Returns for 1848, and exhibits as accurate an estimate of the average number of miles travelled by passengers of all classes on the leading railways, and the average of fares paid by them, for the year ending June 30, 1847, as can at present be entertained:—

NAME OF RAILWAY.	Av. Mileage Travelled by each First Class Passenger.	Av. Mileage Travelled by each Second Class Passenger.	Av. Mileage Travelled by each Third Class Passenger.	Av. Mileage Travelled by each Parl. Train Passenger.	Av. Fare paid by each Passen- ger of all Classes.	Total Number of Passengers conveyed, of all Classes.
Bristol & Birmingham	31 miles.	26 $\frac{1}{2}$ miles.	24 $\frac{1}{2}$ miles.	—	s. d. 4 0	658,620
Chester & Birkenhead.	12 $\frac{3}{4}$ "	11 $\frac{3}{4}$ "	12 $\frac{3}{4}$ "	—	1 6	398,829
Dublin & Kingstown...	2 $\frac{3}{4}$ "	3 $\frac{1}{2}$ "	5 $\frac{1}{2}$ "	—	0 6	2,238,960
Eastern Counties .....	34 $\frac{1}{2}$ "	27 "	15 $\frac{1}{2}$ "	27 miles.	2 10	2,074,170
East Lancashire.....	11 $\frac{1}{2}$ "	11 "	7 $\frac{7}{10}$ "	—	0 9	919,222
Edinburgh & Glasgow.	33 $\frac{1}{2}$ "	19 $\frac{1}{2}$ "	10 $\frac{1}{2}$ "	24 "	2 0	1,147,883
Great Western .....	37 $\frac{1}{2}$ "	23 $\frac{1}{2}$ "	—	44 $\frac{1}{2}$ "	4 8	2,876,222
Lancaster & Carlisle...	35 $\frac{1}{2}$ "	22 $\frac{3}{4}$ "	—	20 $\frac{3}{4}$ "	3 3	151,220
Lancashire & Yorkshire	20 "	14 $\frac{1}{2}$ "	11 $\frac{1}{2}$ "	10 $\frac{1}{2}$ "	1 3	2,889,206
London & N. Western.	50 $\frac{1}{2}$ "	31 $\frac{1}{2}$ "	17 "	35 $\frac{1}{2}$ "	4 2	5,599,736
London & Brighton ...	26 $\frac{1}{2}$ "	21 $\frac{1}{2}$ "	10 $\frac{1}{2}$ "	25 $\frac{1}{2}$ "	2 4	2,615,882
London & S. Western.	20 $\frac{1}{2}$ "	16 "	29 $\frac{1}{2}$ "	—	3 0	1,967,308
Midland .....	33 "	21 "	9 $\frac{1}{2}$ "	24 "	2 5	3,618,799
Newcastle & Carlisle...	29 $\frac{1}{2}$ "	12 "	13 $\frac{1}{2}$ "	—	1 6	525,310
North British.....	14 "	8 "	11 $\frac{1}{2}$ "	—	1 2	840,593
York & Newcastle ....	28 "	14 "	13 $\frac{1}{2}$ "	29 $\frac{1}{2}$ "	1 11	1,553,213
York & North Midland	28 $\frac{1}{2}$ "	24 $\frac{7}{10}$ "	17 $\frac{1}{2}$ "	21 $\frac{1}{2}$ "	2 9	1,204,826

The average fare paid by railway passengers of all classes, in 1847, was 2s., and the average number of miles travelled, including the long through traffic,—as from London to Edinburgh, London to Liverpool, &c.—was only 16 miles. These facts prove that it is the short or local traffic on which railways must rely for the bulk of their revenue. About two-thirds of the passenger traffic revenue of all railways is derived from their second and third class traffic, which is mainly of a local character. A well-populated line of railway is therefore an eminently paying quality, as was *prima facie* to be inferred.

Short traffic  
of railways the  
largest.

It is not indispensable, either, that the population along the line of railway should be so densely populated as we find it in the manufacturing districts of Yorkshire and Lancashire, in order that it should possess the requisite paying qualities. M. Desart, the railway statistician for the Belgian government, has ascertained from examination, that the traffic of the small towns and villages along a line of railway, is proportionately greater than the traffic between two large cities at its termini. The rural population travel about on railways much more, in proportion to their numbers, than the manufacturing population. The agriculturists live out of doors—they attend markets and fairs, and their pursuits lead them regularly away from home. They go to look after the sale or purchase of their farm produce or stock, to hire or to be hired, to buy and sell in the large towns; and hence we find that the passenger traffic on such lines as the Eastern Counties is much greater, in proportion to the population living along the line of railway, than in the densely populated manufacturing districts of Yorkshire and Lancashire. Thus, it appears from the preceding Table, that in the year ending June 30, 1847, 2,074,170 passengers travelled on the Eastern Counties line, which passes through a purely agricultural district not densely populated, while 2,889,206 persons travelled during the same period on the Lancashire and Yorkshire Railway, which passes through two of the most densely populated counties of England. If the respective populations of the Eastern Counties and the Lancashire and Yorkshire district be taken into account,\* it will be found that the proportion of railway travellers is greatly in favour of the agricultural population. It will also be observed that the average fares paid by the Eastern Counties passengers of all classes in that year was 2s. 10d., whereas the average fare paid by the Lancashire and Yorkshire travellers was only 1s. 3d.

Passenger  
traffic on rail-  
ways in agri-  
cultural dis-  
tricts.

This view is borne out by the evidence given by Mr. Peto, M.P., the great railway contractor, before the Select Committee on Railways Acts' Enactments in 1846. He stated it as the result of his experience that "the people in manufacturing districts do not travel about anything

Evidence of  
Mr. Peto on  
agricultural  
lines.

\* In 1841 the collective population of the counties of Essex, Suffolk, Norfolk, Cambridge, and Hereford (districts traversed by the Eastern Counties Railway), amounted to 1,350,363—the inhabitants being under 200 to the square mile: in the same year the population of Lan-

like so much as an agricultural population," and that "he would rather, if he could get a moderately priced line, have it in an agricultural than a manufacturing district, so far as the population of the district was concerned."

Some lines of railway are fed by a stream of passengers in pursuit of health or pleasure, especially during the summer season; and experience has proved that such description of passenger traffic is of a highly remunerative kind. The Leamington Branch of the London and Birmingham Railway, the Scarborough Branch of the York and North Midland Railway, and the Brighton Railway, owe a large portion of their traffic to this source; and the Leeds and Thirsk Railway, leading north and south to Harrogate, Knaresborough, and Ripon, may be expected to derive a large amount of traffic from the same source. A great proportion of such traffic is of the first class kind. This is the case on the Leamington Branch of the London and North Western Railway, and on the Scarborough Branch of the York and North Midland;—indeed the latter branch is understood to be one of the best paying portions of the lines belonging to that company. In 1845 the pleasure traffic of the London and South Western Railway is stated to have amounted to 500,000 passengers.\*

**MERCHANDIZE AND OTHER TRAFFIC.**—Every railway has a merchandize traffic peculiar to itself: the chief part of the merchandize revenue of one set of lines is derived from coal and coke; of others, from corn and agricultural produce; of others, from the raw materials of manufacture; of others, from fish; and some have a mixture of all sorts of goods traffic.

About one-half of the total revenue of the York and Newcastle Railway is derived from Coal and Coke traffic. Of the 8,900,000 tons carried over all the railways in the United Kingdom, in 1847, not less than 1,620,163 tons passed over this railway. 911,645 tons passed over the Stockton and Darlington Railway. All the Durham railways, and all the railways leading out of the county of Durham, are mainly fed by the coal and coke traffic, which must be regarded as one of the most important and remunerative description. Railways which pass through districts destitute of coal, become the great coal carriers and coal merchants of those districts; deriving a profit both from the carriage and the sale, and this greatly to the benefit of the public, by the large reduction of price effected by railway transit. In the agricultural districts generally, the saving to consumers in this article has amounted to from 5s. to 10s. a ton. At Wellington, on the Great Western Railway, the arrival of a single waggon-load of coal at the station, was a summons to the local

cashire and the West-Riding of Yorkshire amounted to 2,821,155—the inhabitants of the West-Riding being in the proportion of 448 to the square mile, and of Lancashire 944.

\* Evidence of Mr. Humphrey, M.P., before Railway Termini Commissioners.—*Minutes of Evidence*, p. 127.

coal merchants to lower their price at once by five shillings per ton.\*

As railways have time to develop their resources, it is found that the Goods Traffic generally increases in a more rapid ratio than even the Passenger Traffic. Thus, the total Goods Receipts on all the railways in the United Kingdom, increased from £1,424,932 in 1843 to £3,362,883 in 1847, considerably more than doubling itself in four years, whereas during the same period the Passenger Traffic Receipts had only increased from £3,110,257 to £5,148,002, or considerably less than double—though still a very large increase. Increase in Goods traffic the most rapid.

It has lately been averred that the Goods Traffic of railways is carried on at a loss;† and the statement has been specially made as regards the London and North Western Railway. To this, Mr. Mark Huish, the Goods Manager of that line, has furnished the sufficient answer, that the whole working expenses of both Goods and Passenger traffic for the year ending June 30th, 1848, amounted to £751,172; and that they were more than covered by the receipts from the Goods and Parcel traffic, which amounted in the same period, to £827,463.‡ Mr. Eckersley, comptroller of the Yorkshire and Lancashire Railway, also bears out the views of Mr. Huish, by a similar statement as to the results of the respective traffic on that line. The total working expenses of the Lancashire and Yorkshire Railway in 1848, amounted to £132,813, whereas the receipts derived from the goods traffic alone amounted in the same year to £185,610; the receipts from passenger traffic being only £165,764. Mr. Eckersley shows that while the total receipts from goods amounted to the sum above named, the expenses of working the goods traffic amounted to £74,076, showing a profit on such traffic of £111,534 for the year.¶ The capital invested in the working stock requisite for the accommodation of the merchandize traffic is also much less than that invested in the carriages, &c. requisite for the accommodation of passengers; so that the nett profit derived from the goods traffic is actually greater in proportion than the other. It must be admitted, however, that in many cases the rates of carrying are at present too low. Capt. Huish in 1846 stated that the London and North Western Company was carrying many goods at very little profit; that the income of the company in the cases of some descriptions of goods remained stationary, with a very large increase in the working expenses for the increased weight. He said—"I believe that some of the companies have in some instances touched the point when the more they carry the more they lose."§ Goodstraffo a paying traffic.

The Coal traffic of railways has also been recently assailed in several quarters, as a losing traffic, although it is a well-known fact that the most profitable railways both in Eng- Coal traffic a paying traffic.

\* Mr. H. Brown's pamphlet, p. 20.

† See Mr. Whitehead's pamphlet on *Railway Management*.

‡ See Mark Huish's Letter to G. C. Glyn, Esq., M.P., p. 8.

¶ *Observations on Two Letters, &c.*, by Peter Eckersley.

§ Railway Acts Enactments Committee.—*Evidence*, p. 133.



The profits  
of railway traf-  
fic must in-  
crease.

So long as railways remain the best, most expeditious, safe, and economical means of transit, which they are now, and bid fair to continue,—the profits of all railway traffic cannot fail steadily to increase. In the infancy of a system, complete success is scarcely to be looked for. And yet railways, as a system, have already been remarkably successful: how much more may we expect of them when a larger knowledge and experience have been brought to bear upon their management—when the most economical methods of working them have been ascertained—traffic has been developed—and population had time to settle down along the course of the iron roads. Already the population is increasing rapidly along all the older lines of railway. In the neighbourhood of the large towns, villages of villas are springing up. Men who can afford it, prefer living beyond reach of the grime and dust of manufactures; and we have recently heard of country habitations for workmen, being erected on a large scale along the lines of railway near London. Villages and towns, some built for purposes of trade, others for pleasant residence, spring up every where by the side of railways, which may be regarded as the great streets of our island, along which buildings become erected for purposes of industry, convenience, or health.

Railway traf-  
fic has suffered  
the least from  
late commer-  
cial depression.

It is a striking proof of the steady and comparatively unfluctuating character of railway traffic, that during the last few years, notwithstanding the severe depression of trade, and the number of new lines of railway that have been opened, the average revenue of railways has suffered very little diminution. The new lines opened have not at all seriously affected the revenues of the older railways; for this reason, among others already insisted on, that the new lines run through districts which the older lines did not accommodate, or accommodated imperfectly, and because the best part of the traffic of every line must be essentially local. In many cases the new lines have even contributed to swell the traffic of the old; for no truth is more certain than that railways create, or rather induce traffic, and every fresh line, unless a direct parallel to another at a very short distance, must help to increase the traffic of others\*. The manner in which railways have thus maintained their traffic, notwithstanding so many adverse circumstances, is a good proof of the stability of railway property. Merchants, manufacturers, and tradesmen, have deemed themselves fortunate men when they have been able, during such a commercial crisis as we have just passed through, to keep a bare balance in their favour on the credit side of their ledger. Many have with difficulty escaped, many have been ruined; yet railways generally have held their ground. It is not matter of surprise that in some cases their incomes have fallen off, though not at all in proportion to those of the commercial classes generally. Where the average mileage receipts have declined, it will be found that new or branch lines have been opened, the traffic on which has not yet been developed. But it should

\* *Westminster Review*, No. 86, p. 226.

also be taken into account that such branch lines have generally been constructed at less average cost than the old or main lines, and therefore a less revenue is required to enable them ultimately to pay in like manner as the old.

The great demand for money on loan during the last few years, has led to an increased rate of interest being paid, and thus, by the heavy charges incurred by railways on account of their loan capital, diminished the profits divisible among shareholders. This, however, can only operate temporarily. Capital increases in this country at so rapid a rate that before many years are over our heads, abundance of money will be had for  $3\frac{1}{2}$  or 4 per cent., as in 1845. The difficulty then will be to find investments, as it now is to find loans. The competition for capital of the companies constructing railways, will have given way to the competition of lenders for mortgages. The productive industry of our nation is so great, that the accumulation of capital wealth proceeds at an ever accelerating ratio.

Higher price of money has operated unfavourably on railways.

The rapidity of this increase of wealth was proved by the drain of capital which the country suffered, without apparent exhaustion, during the last great continental war. Between 1797 and 1815, 1,500 millions were thus expended, or equivalent to about 80 millions a-year; and since that time the productive industry and the capital wealth of the country have largely increased. Mr. Porter\* places the matter in the following light. He says—"If the comparison be made between the public expenditure of the United Kingdom in the twenty-three years from 1793 to 1815, and that of the like period of twenty-three years from 1816 to 1838, it will be found that it was less in the latter than in the former period by £332,090,640, showing an average annual difference of £14,438,722. It matters not what part of the sums here mentioned was raised from taxation, and what part was borrowed; under whatever guise it was derived, the whole was provided by the nation at large; and if the greater expenditure of the war period was so provided without diminishing, or even without materially impairing, the capital of the nation, it must needs be that the smaller expenditure of the second or peace period, has left an enormous increase of wealth in the nation." Another proof of the extraordinary rapidity of the increase of capital is afforded by the income tax returns. In 1815 the income from real property chargeable with property tax, was about 50 millions—it now exceeds 80 millions. The same rapid increase in the capital of the country is proved by the large increase in the legacy duty on personal property, which exhibits an increase, as compared with 1815, of 450 millions†.

Rapid increase of capital wealth in England.

\* *Progress of the Nation*, vol. iii., pp. 117-18.

† To these sources of increase of capital in the country might be added the increase caused by railways themselves. Mr. Hackett has shewn (*Herapath's Journal*, 3d Series, vol. x., p. 33) that between the years 1843 and 1847, inclusive, the amount of capital expended on railways was £57,548,700, and that the total amount of railway income in the same period had been

Mr. Porter \* estimates the total increase in the capital of the country at not less than 800 millions, during the twenty-four years of peace which followed the year 1815.

We cite these facts to show the large amount of capital seeking new investments in this country—investments which if not found at home, are sought for abroad. For the employment of such capital, railway property is now open; and we believe that this must ultimately become the favourite investment of all who look for a fair per centage for their money, derived from real bona fide property.

After all, what investment is superior to that of railways at present prices? While Consols pay only about  $3\frac{1}{4}$  per cent., there are few of the older lines of railway which pay under 5; and 5 per cent., before many years are over our heads, will be again regarded as a high rate of interest. Already capitalists begin to complain of the stagnation of capital, and the difficulty of employing it profitably in ordinary commercial concerns. There promises soon to be a glut of money in the country. The accumulation of bullion and reserve, &c., notes, in the Bank of England in December, 1848, as compared with the same period of last year† show that this stagnation must ere long tell upon bank dividends, and most probably lead to a still further lowering of the rate of discount. Money on loans will also again be obtained at easier rates of interest, greatly to the advantage of the railway companies who are borrowers, and we may probably find the large capitalists again operating largely on the share

£38,884,181. "Of course," says Mr. Hyde Clarke (from whose *Contributions to Railway Statistics* we take the figures) "the whole of this income cannot be treated as real capital, no more can the whole of the expenditure; but it is a significant fact, that while the whole of the expenditure has been £57,548,700, the whole income has been £38,884,181, or more than two-thirds of that amount. This is deserving the attention of those who direct their attention to the subject of railway capital."

\* *Progress of the Nation*, vol. iii., p. 127.

† The condition of the Bank now as compared with the corresponding period of last year is as follows:—

	Dec. 16, 1848.	Dec. 17, 1847.
Bullion .....	£14,789,872	£11,032,599
Reserve of Notes .....	11,246,410	5,583,020
Other securities .....	10,669,617	18,070,409
Rest .....	3,376,688	3,587,004
Other deposits .....	9,249,649	8,441,289

These figures show that the ordinary business of the bank, measured by its amount of advances to the public, forming the item of *other securities*, has fallen off nearly one-half; that its undivided profits or *rest* had diminished £210,316, while its unemployed capital had increased £5,663,390. The result of these changes, says the *Atlas*, it is very easy to anticipate. The Bank of England and every other bank being affected by the same causes, will, in order to make any profits on their capital, be obliged to lend it more freely and even on more questionable securities than they would have accepted a short time since. We feel quite sure that the present superabundance of spare banking capital cannot long continue without giving a stimulus to trade, and as there is already a decided improvement in the general condition of business, we look forward to a brighter commercial era than we have experienced for a long time past. Of such improvement, railway companies will be amongst the first to reap the benefits.

market as they did in the years 1840-1-2. Most of the large properties which have been made by railways were realized in this manner, by buying in largely when the greatest probable expenditure on the lines in course of construction had been incurred; and waiting patiently for the revival of trade, and the development of the traffic and revenue of railway property.

Because the too high dividends of the older railways have not been maintained,—numerous causes, as we have shown, contributing unnaturally to depress them,—railway shareholders have too suddenly become discouraged, and many thrown away their property rashly, without exercising patience and waiting calmly for the returning tide of prosperity. Give them time, and there are few lines of railway through average good districts, but will pay at least an average dividend of from 5 to 6 per cent. There are very few which will not ultimately pay a legitimate dividend of 4 per cent. The property is a valuable property which, without any labour or effort on the part of the shareholder, beyond that of buying his shares and giving receipts for his half-yearly dividend, pays him interest for his money at this rate. Railway property has real stability about it: while population and trade exist, railways must be largely used, and their revenues inevitably increase with the extension of these. Railway property cannot, like shipping, suffer wreck, nor like houses be burnt, nor in event of a war, be depreciated in the degree that Consols would be. Who will say that railway shares paying 6 per cent. are a less desirable investment than Consols paying only 3½? The one property is real and substantial: the other is based on political credit only, and may, in times of great public agitation and revolution, prove in the end a mere phantom.

Market price of shares unduly depreciated.

Property of all kinds must be subject to rises and falls—building land, dwelling-houses, factories, machinery, warehouses, ships, the funds, mining shares, bank shares, canal shares, foreign bonds, &c.; and railways, like all such property, is affected by occasional depressing influences. Many of the descriptions of property just named have recently fallen quite as much as railway shares—not because the profits they yield, are not sufficient, as because they are not readily convertible into cash at a time such as we have just passed, when ready money has commanded as high a rate of interest as from 10 to 12 per cent.; and consequently the great capitalists have for the time declined to invest in such securities, until the rate of interest for money has fallen permanently, which it now promises speedily to do.

Depression in market value of property generally

We do think, that taking all circumstances into account, the elements of stability of railway property are as sound as those of any other description of investment, with the single exception of land, which yields a notoriously low rate of interest.

The traffic anticipations of the chief railway companies.

We see no reason to call in question the soundness of the anticipations of the railway companies which recently gave their detailed financial statements to the world. They are published by men who are thoroughly conversant with the details of their business—who have the experience of the past to guide them in their calculations—and whose interest it certainly is *not*, to delude the public by exciting unfounded hopes which could only issue in their own discredit and discomfiture.

London and North Western Railway anticipations of traffic revenue.

Thus, the London and North Western Company, after showing that their revenue for the year ending 30th June, 1848, was £2,194,093 or an average of £42,194 per week, and, after making deductions on account of interest paid to Lancaster and Carlisle Railway, on bankers' balances and rents (amounting to £54,057), that it amounted to an average of £41,154 per week, and that to maintain their dividend of 7 per cent. it will require an average weekly revenue of £48,723,—proceed candidly to state—

"It therefore remains for the shareholders to consider whether the preceding calculations (given in their financial statement) are sound and moderate, and if so, whether there is a reasonable probability of the gross revenue of the company from the traffic of the main lines and branches to be opened, increasing to an extent of £7,569 per week by the year 1852, when all the capital will have been called up, and the subsidiary lines in operation. To produce such increase, there is the additional revenue to be derived from all the lines enumerated in Schedules 2 and 3 (branch lines in course of formation and subsidiary lines in which the company have an interest); and that *steady annual increase which, with the exception of periods of severe depression, has taken place since the lines were opened*; to which should be added, that *economy of management*, which increased experience will enable the directors to introduce. On the other hand, the directors do not overlook the fact, that a certain amount of traffic will be abstracted by competing lines. It will be much less than is usually supposed, and the *general traffic is secure to the concern.*"

Great Western Company.

In the same manner the Great Western Company, after showing that the nett earnings of that concern for the year ending June 30th, 1848, (after making all necessary deductions on account of working expenses, interest on loans, &c.) amounted to £701,250, enabling them to make a dividend of £6 10s. per cent. for that period,—proceed to state—"If an increase of gross revenue on the Great Western Railway be obtained of only £1,650 per week—or, if the working expenses can be reduced to 37 per cent. (*without any increase of traffic*), the earnings will be sufficient to pay 7 per cent. to the Great Western shareholders on the estimated stock or share capital."

The London and South Western Company.

The London and South Western Company also exhibit a highly satisfactory statement. They show an average traffic of £14,431 per week, and, with an increase per week of £2,495 (which they show good reasons for anticipating) calculate on making a dividend, after the current half-year, of 6 per cent. on their share capital. The statement of this company contains the following interesting facts exhibiting the steady and even rapid increase of traffic upon railways, continuing for several years after they have been opened to the public:—

"The following statement of the traffic of the line, from London to Southampton, from the first entire year of its opening, and for the five following years, will show, in some degree, the effect of time in augmenting receipts, though it is right to mention that the fair comparison from year to year is somewhat disturbed by the opening of the line to Gosport (15 miles) in February, 1842, and of the Guildford branch (6 miles) in 1845, neither of which, however, at those early periods, brought any large accession to the previous traffic, though some addition is no doubt attributable to these causes:—

Receipts from July 1st, 1840, to June 30th, 1841, gross	£267,000
Year ending June 30th, 1842	294,000
Ditto June 30th, 1843	316,000
Ditto June 30th, 1844	331,000
Ditto June 30th, 1845	350,000
Ditto June 30th, 1846	373,000."

The Midland Company, looking at the future prospects of the shareholders as to dividends, give the following facts for the guidance of their proprietors:—

"The average receipt per mile per annum for the year ending June 30th, 1844, was	£2,426
" " " " " "	1845, " 2,948
" " " " " "	1846, " 3,391
" " " " " "	1847, " 2,702
" " " " " "	1848, " 2,623."

The estimated average receipt per mile per annum required to pay £6 per cent. when the works under contract are completed and paid for, is about £2,850, or £541 per mile per annum *below* the average of 1846. The prospect of the Midland Company seems reasonable, the more so, as they state that more than 150 miles of their railway have been opened since 1846, and a considerable extent only within a few months; and that the traffic of a district is not all at once thrown upon a railway, but requires several years for its development.

The Eastern Counties Company say that—

"The total receipts for the current half-year will, it is expected, exceed £400,000; but looking at the additional mileage recently opened, and to be opened—at the further natural development of the traffic through agricultural districts, which experience shows is of *slow but steady growth*, and at the great and unprecedented depression in the present trade of the country, it is considered that the income for the year commencing July, 1849, will not be less than £340,000; and it is to be anticipated that this revenue will be susceptible of increase. A deduction of £350,000 per annum for working expenses will be found, it is hoped, to exceed what those expenses will be actually reduced to, by the economy which will be constantly exercised in every department of the undertaking. The guaranteed interests on the Northern and Eastern capital, and on the Eastern Counties and Norfolk Stocks, Debentures, and liabilities, will amount in the aggregate to £320,548. The nett surplus will be applicable to dividend."

The Edinburgh and Glasgow Company show an estimated nett annual income applicable to dividends (making all necessary deductions on account of working expenses, interest, guarantees, &c.), of £132,860 17s. 4d.—the income requisite to pay 6 per cent. on the total share capital of the company being £132,302 10s.; there being little doubt of their obtaining such required increase (of £542) on the revival of trade, which the directors state that they have not taken into account in their calculations.

The York Newcastle and Berwick Company say that—

"When all the works shall have been completed, the aggregate length of the several lines of railway in the possession of the company will be 330 miles, and the directors calculate that the gross income they may fairly expect to derive from the whole will not be less than £1,040,000 per annum, which is after the rate of £20,000 per week."

This annual income will, however, be subject to annual charges amounting to £561,030—

"Showing a clear annual profit of £478,970, which, after yielding a dividend of £7 per cent. per annum on the share capital of £5,750,000, will leave a surplus income of £76,470. In estimating the prospective gross income of the company at £1,040,000 per annum, the directors rely upon the following considerations. The revenue now produced by the traffic upon the 270 miles of line at present in operation, is after the rate of about £720,000 per annum, or £13,846 per week. This it must be remembered is the produce of a year of severe commercial depression, during which the decrease of passenger traffic upon railways has been unprecedented. But there can be no doubt that the revival of commerce will restore that steady progressive improvement of railway traffic in all departments which has been previously experienced. In the article of coal alone, the published returns show that the quantity exported from the ports of Durham and Northumberland during the last four years, has increased after the rate of 45½ per cent. in that short period. \* \* \* The directors feel great confidence in anticipating that, by the time the additional 60 miles of line shall have come into operation, the gross annual income will reach the amount at which they have estimated it."

### The York and North Midland Company

"Estimate that the traffic to be derived from their lines and the lines under lease will produce a gross annual revenue of £520,000, being at the rate of £10,000 per week, and that the working expenses will amount to £137,000. The interest on debentures, including the sum which will have yet to be provided for the works before mentioned, will be £66,281 per annum, and the annual rent of the Hull and Selby and Bridlington lines, together with the interest on debentures on those lines, is £76,572. After deducting these charges, a nett income of upwards of £240,000 will remain applicable to dividends, being more than 7½ per cent. on the amount of the share capital. The rate of interest at present paid on the debentures of the company is at an average of nearly 5 per cent.; but the directors cannot anticipate that in future years it will amount to that per centage. It may fairly be hoped that in times of ordinary prosperity the loans will be replaced as they fall due at a rate of interest not exceeding 4 per cent."

The South Eastern Company, in their Financial Report of January 15, 1849, state that—

"The revenue produced by the lines open during the last year, 162 miles and 66 chains in length, was £449,725 11s. 1d., or £2,763 per mile. The policy of the company for the last four years, that they should themselves be the carriers of goods on their own lines, has been adopted with entire success: the receipts from goods, which averaged weekly £608 in 1844, amounted to £1,810 per week in 1848; or in the former year to £6 12s. per mile per week, and to £12 per mile per week in the latter. This policy the directors believe will be still more successful when applied to the traffic of the whole South Eastern system of railways, and will then produce more than a corresponding increase of receipts."

And looking to the probability of an approaching period of commercial prosperity, and of increased intercourse with the continent, the Report encourages the proprietors with

"The hope of a greater development of the existing traffic of the South Eastern district, and they will probably arrive at the conclusion that the permanent dividend to be derived from their property is not likely to be less than 6 per cent.; and if the proprietors have not erred in the anticipations on which the original investment was made, still greater advantages are to be expected."

We do not enter upon any criticism of these statements, which it would be easy to do. Nothing is easier than carping and finding fault, picking holes, and exposing fallacies which have no foundation. We take these financial statements as made in good faith, guaranteed as they are by the official sanction of the heads of the several companies. And judging from the experience of the past, we should say they contain nothing that is unreasonable or that has not already been amply borne out by the facts of railway history.

## V.—RAILWAY ECONOMY.

Greater economy in the working of Railways—Speed of trains and weight of locomotives too great—Trains too frequent—Necessity of separating slow from fast traffic—Fares should be more remunerative—Accommodation afforded by Parliamentary trains—The public must consent to pay for high speeds—If fares are kept low, speed must be reduced—The fares charged must be remunerative—Economy required in working of branch lines—The new patent steam carriage—Necessity of limiting expenditure in construction of Railways—Closing of capital accounts—Traffic arrangements for mutual benefit of companies should be adopted—Railway competition impossible—The public pay the cost of constructing competing lines—Charge of monopoly groundless—The public adequately protected against monopoly—Interest of Railway Companies to give the largest accommodation to the public—Publication of audited accounts in detail—Heavy rating of Railways—Cheering prospects of Railways.

GREATER economy in the working of railways may with confidence be calculated upon, during the next few years. The competition of the broad and narrow guage engineers has led to a large and unnecessary increase in the working expenses. Engines of much greater power have recently been used on the narrow guage, in order to surpass if possible, the speed of travelling on the broad guage; and the public, who are always interested in a race, have cheered on the contending parties. Express trains have been run at great expense, and at break-neck speed, to the great injury of the permanent road and working plant. The engines originally worked have given place to new, heavy, and powerful engines; short-boilers have been superseded by long-boilers, and these again by the heavy short-boiler locomotives now in use,—those previously employed having been laid aside before worn out,—because the credit of the narrow guage must be maintained, and the public demand for high speeds gratified. Thus tear and wear of railways has increased, and consumption of coke increased, without any equivalent return in the shape of increased profits. Henceforward economy in working must be the order of the day with railways. Express trains are now much less frequent than they were a year ago; for it was found, that notwithstanding the higher fares charged, they did not pay, and were much more dangerous. The public might not care for this latter circumstance: but accidents are most costly affairs to railway companies, whose interest it always is to render travelling by rail as perfectly safe and regular as possible.

Greater economy in the working of railways.

Speed of trains and weight of locomotives too great.

Trains have also been too frequent, entailing unnecessary expense. Although it is of confessed importance to afford every facility to the public in using the railways, it is possible to push the accommodation beyond the public necessities; and we believe this has in many cases been done. A passenger train travelling hourly along a line of railway, is certainly not required; and the public will generally be well enough accommodated if they have trains passing every two or three hours, unless in special cases—such as of market trains, mail or through trains, and such like. The average expense for

Trains too frequent.



locomotive power of a train on most lines is from a shilling to fourteenpence a mile; which amounts, on a line of one hundred miles, to about £1825 a year for each extra train. On some lines two or even three trains each way might be dispensed with, without inconvenience to the public or loss of revenue to the railways. Suppose two trains each way on a line of 100 miles: here is a saving of £7300 a year in locomotive expenses alone. The total cost of working trains (including charges for plant, and all fixed and variable charges) averages from 3s. to 5s. a mile; it is obvious, therefore, how great would be the saving to companies in the year, if two or three unnecessary trains could be dispensed with. We have already shewn that fewer trains is an important feature of Foreign as compared with English railways, and the chief cause of the much lower working expenses of the former.

The diminution in the number of trains would also lead to increased safety to the public, and enable the companies to work their coal and goods traffic with much greater profit than now. The present overcrowded state of many of the lines, in consequence of the unnecessary number of passenger trains run, renders it exceedingly difficult to work the coal and goods traffic at slow speeds; and we have already shown that to work such traffic at high speeds involves a large expenditure in locomotive power, besides great tear and wear of permanent way. On this point, Mr. R. Stephenson has given the following valuable evidence:—

“I think that railways, as instruments for the carriage of heavy goods, have not reached half their perfection or extent, and will not until we are permitted to separate the fast and slow trains. If we convey heavy goods at 15 miles an hour, I believe it will reduce the cost of conveyance to considerably lower than one-half of what it is now; so that a large quantity of coal may come to London from the Midland districts. At present it costs us three farthings per ton per mile. In the north, at Stockton and Darlington, where they convey the coal at 9 miles an hour, every charge is included, and they carry it at one halfpenny a ton per mile. The breakage of coal is so much increased by rapidity of movement, that it becomes impossible to move ordinary coal waggons when they are on any of the main lines without springs. The public will never get the full advantage of railways until they can separate the slow traffic more or less from the quick traffic. Up to a certain extent the mixture does not add to the expense of conveyance, but when the mixture becomes very great, or the income of the railway is derived as much from goods as from passengers, then, in order to convey goods most economically, it becomes desirable to convey them at a speed of, say, from 15 to 18 miles an hour, coals at a speed not exceeding 15 miles an hour, for it is impossible to convey them at 1d. or ½d. per ton per mile if they are to be hurried along at 25 miles or 30 miles an hour; the cost and the wear and tear are too great, besides coal is damaged very much by velocity.”\*

The proper separation of the slow from the fast traffic referred to by Mr. Stephenson, does not appear to be practicable without reduction in the number of passenger trains run daily.

In connection with this point, it is also matter for consideration whether passenger fares might not be so re-arranged as to yield companies a better average return than at present. The Parliamentary train, arbitrarily imposed by Parliament, restricting the fare for third class passengers to 1d. a mile by one train each way daily, is of itself a great boon to the poorer classes. Railway

Fares should be more remunerative.

\* Given before the Committee on the Stour Valley Railway in 1846.

companies do as much as is required of them, and as much as they ought to do, if they make this train as convenient for the working-classes as possible. Let them even run two such exclusive third-class trains each way daily. But we suggest whether the third-class might not be discontinued in connection with all the other trains, which might be first and second-class trains only—the fares charged for these classes being even more moderate than at present. Circumstances will of course determine the cases in which such change could be practised with success. On a densely populated line such as the Lancashire and Yorkshire Railway, where a large number of the persons travelling are third-class, the number of the third-class trains would require to be larger. But it was never intended that broad-cloth passengers should travel by the working-men's trains as they do now: and if a comfortable second-class train is provided for them at moderate fares, there is reason to believe that they would be as well served, and the railway companies would be considerably better remunerated than they are at present.

The Parliamentary Trains are required to travel at the average speed of not less than 12 miles an hour, including stoppages. The carriages provided, must have commodious seats, be lighted, ventilated, and sufficiently protected from the weather in a manner satisfactory to the Railway Commissioners. 56 lbs. of luggage are to be carried free for each passenger, children under three years are carried free of charge, and under twelve at half-price. The train must stop at each station, and the hour of starting is regulated by the Commissioners. Here we have a privilege conceded to the poorer classes of travelling at a rate more rapid than the old mail coaches, and at less than one-third of the fares. Is not this a sufficient boon, and quite enough for railway companies being required to concede? The public who require to travel at a more rapid rate by the ordinary trains, ought in all reason, to be satisfied to pay for the greater speed. Speed is time, and in this country time is money. The quality of speed in railway travelling is an element of greater importance than has been generally allowed. And if speed, regularity, comfort, and convenience, are afforded to the public by railway travelling, these are advantages sufficient, without any such lowering of the fares, compared with stage-coach travelling, as has on most railways been adopted.

Accommodation afforded by parliamentary trains, a great public boon.

The public must consent to pay for the high speeds.

If the present low fares are continued, then the speed must be reduced. We have already shown that the cost of hauling a train at 25 miles an hour is, as nearly as possible, double the cost of hauling it at 15 miles an hour. If the public prefer travelling at the high speed, it is only reasonable that they should pay for it. They cannot have both high speed and low prices. Under the old stage-coach system, the higher charges made for fast travelling were recognised because reasonable. There was a great difference between the fares of the mail and the ordinary coaches. The same conditions should hold equally with respect to railway travelling, and the advantages of high speeds be fairly paid for.

If fares are kept down, speed must be reduced.

The fares charged should be remunerative.

Cheap fares will stimulate passenger traffic to only a certain point. There is always a large class who cannot avail themselves of railway travelling no matter how cheap, because they have not the money. And railways must be regarded in the same light that other commercial concerns are: the capital invested in them ought to be productive and yield a fair average return to the investors. The public must be satisfied to pay for railways according to the cost of their construction. In this country the tedious and expensive course of legislation has involved the projectors of railways in almost endless expense; the legislature have also imposed heavy burdens on railways in the shape of passenger duty, stamp duty, and so on; parochial burdens are enormous;\* all this adds to the cost of constructing and maintaining railways, and it is only fair, in fact it becomes absolutely necessary, that the public pay the price of this extra cost in their rates of travelling. Some point to the low charges of continental railways: but how different the case of railways in this country—the parliamentary expenses; the extortionate price of land; the government duties; the parochial rates! Taking the prime cost of English railways into account, and the general and local burdens they have to bear, with the higher rate of wages paid to railway employers, as compared with what prevails on the continent, the fares of English lines are already actually *lower* than they are in any of the continental countries.

The more economical working of branch lines is also another point deserving of attention. The traffic on branch lines is generally light, requiring both lighter engines and less expensive permanent road. Many of the present branch lines do not pay; in consequence chiefly of the heavy working expenses. According to the present system, the expense of working a short branch of some ten or twenty miles, on which, in a single train, may be conveyed, on average journeys, from twelve to twenty passengers, is, within an inconsiderable amount, equal to that of working the main line with trains of 200 or 300 passengers each; that is, as regards the cost of locomotives, the wages of labour, and the wear and tear of the permanent way. The consequence is, that branches are occasionally worked at a dead substantive loss. But if these expenses could be cut down by the use of lighter plant and less expensive permanent road, they might yet be made sufficiently remunerative.

\* Taking the average burdens on railways we find that, after deducting from the gross receipts the amount requisite for working expenses, the charges for local rates and passenger duty amount to about 12½ per cent., after which a further deduction of 3½ per cent. is made on the dividends of those proprietors whose incomes exceed £200 per annum. The government thus manages to mulct the profits of railway companies twice over—first in 5 per cent. for passenger duty, and next in 3½ per cent. for income tax. Mr. Booth stated in evidence before the Railway Acts Enactments Committee in 1846, that the London and Birmingham and Grand Junction Companies, then paid for the last half-year, £22,552 in rates and taxes. The government duty upon passengers was £25,769; the property and income tax on the profits, before dividing among the proprietors, was £16,679; the stamps on the transfer of shares between the proprietors and the public, was about £13,000: giving an aggregate paid either to the government or for the maintenance of the poor, out of the receipts of these two companies, for the half-year, of £78,000, or equivalent to a payment out of the nett profits of the company of about £160,000 a-year, irrespective of the indirect taxation that the company and its 4000 or 5000 servants are subjected to.—See *Evidence*, p. 135-6.

A locomotive engine and carriage has recently been invented by Mr. Samuel, the engineer of the Eastern Counties Railway, and patented by Mr. Adams, of Bow, London, which seems calculated to effect much saving in the working of branch lines. It may be observed that the average weight of a train on the branch lines of the leading railways is 56 tons, and the average number of passengers conveyed by each train on such branches does not exceed 40. The weight of these passengers is about 3 tons, so that for each ton of paying load there is a dead-weight of about 20 tons. This, it will be obvious, entails a heavy expenditure, in the original cost of the plant, in the consumption of coke, and in tear and wear of permanent way. The new engine invented by Mr. Samuel and patented by Mr. Adams, is a locomotive, and first and second-class carriage, the whole being self-contained and resting on the same continuous bed or foundation. It weighs in all between nine and ten tons, and carries 60 passengers. The following is a brief description of the carriage :—

The new patent steam carriage.

This carriage is constructed to carry 62 passengers—10 first class, 24 second, and 28 third, weighing 4 tons, on six wheels, of which the two driving-wheels are 4 ft. 6 in. diameter, and the middle and trailing wheels 3 ft. diameter. The wheels run loose on their axles, as well as the axles in the journals; this, with the small distance of the frame from the rails (9 in.) gives great steadiness and freedom from oscillation, and also facility in going round curves. Cylinders 8 in. diameter and 12 in. stroke; extreme centres of wheels 29 ft.; consumption of coke from 8lb. to 10lb. per mile; weight, with water and fuel, about 12 tons.

The usual dead weight of the ordinary locomotive tug tender, break vans, and carriages, to carry a similar load, would be between 40 and 50 tons, with an expenditure of coke from 30lb. and upwards per mile. This Steam Carriage can be worked by the driver and stoker without requiring a guard, as the brakes are on the engine within their control, and greater safety is obtained, inasmuch as the machine can be got very rapidly into speed, and can be retarded and stopped in a very short distance, owing to the small amount of dead weight. The centre of gravity being very low, it would be practicable in summer time to carry twenty-five or thirty extra passengers on the roof.

The carriage is calculated chiefly for branch traffic at moderate speeds; but the same principle can be applied for Express purposes at high speeds. The engine is made to uncouple from the carriage when required for purposes of repairs. The carriage is capable of easily passing round curves of six chains radius.

The "Fairfield," the first carriage constructed of the above build, was delivered on to the West London Railway before she was in thorough working condition, in order to test her powers. The result has been that she has exceeded a speed of 35 miles an hour *up* a 3 mile incline of 1 in 100; and 41 miles *down* the same incline, with the disadvantages of a very sharp curve and no run at starting, very loose rails, and one of them deeply rusted from disuse, grinding in the flanges with great friction. There is little doubt that, when in order, she will make 60 miles per hour on good rails on a level.

Another experiment with the same engine, has since been tried on the Great Western Railway, from Paddington to London, a distance of 77 miles. Notwithstanding considerable disadvantages, the engine made from 35 to 40 miles an hour on the down journey; and in returning, the average speed between Reading and Slough was 43 miles per hour. The eighteen miles from Slough to Paddington were run in thirty minutes.

This invention, we think, promises to prove one of no small importance to railway companies, and seems to point to the solution of the heretofore difficult problem of how local branch accommodation is to be afforded to the public on a system sufficiently remunerative to the proprietors. Mr. Samuel estimates that the average cost of conveying the

passengers would not exceed one-fifth of a penny per mile.\* Mr. Samuel also proposes to work the branch goods traffic in a similar manner.

The directors of railway companies have it in their power to give increased confidence to the public in railway property, by limiting as much as possible the expenditure on existing lines, and on lines in course of construction. Thus time may be given for the development of the traffic on the railways already made, to the improvement of their revenue and the increase of the legitimate dividends paid on the capital expended. The completion of all main lines is desirable, otherwise the large capital already expended will remain unproductive and the property represented comparatively valueless. But all branches, unless of an important character, and likely to lead to large and certain increase of traffic, may well be postponed. Many of the old railways have already stopped the construction of branches and subordinate lines, and other companies are also following in the same direction.

Closing of capital accounts.

The closing of capital accounts of railways must be admitted to be a desirable thing. But in the infancy of a railway system, this is not so easy a matter as may at first sight be supposed. As the traffic increases, stations have to be enlarged, goods warehouses to be built, turn-tables provided, long sidings to be laid down, additional working stock to be added, all of which must go to the capital account. The case which Mr. Hudson puts is a striking one: "Supposing the development of a new traffic, producing a revenue of

\* The saving in the capital invested in the working plant is also an important consideration. We find it to stand as follows:—

*By the present system*, the average capital invested in the plant requisite to work a branch train is—

For an engine and tender say .....	£2000	
For a first-class carriage carrying 18 passengers .....	850	
For 2 second-class carriages carrying 48 .....	£250 each 500	£2350

Total number carried ..... 66 passengers.

*By the new patent carriage*—

For the locomotive and carriage, capable of carrying 62 passengers, first, second, and third-class .....	1800
----------------------------------------------------------------------------------------------------------	------

Saving in working plant (equal to about 40 per cent.) ..... £1050

An advantage which the ordinary locomotive has over the new patent carriage, is, the much larger train of passengers it can haul when special occasions require. But it is worthy of consideration whether it is necessary even for the sake of profiting to the utmost by any unusual influx of passengers, to keep up a very expensive stock and system of working, because occasions occur on which it may be required. Even on such occasions, the patent Steam carriage, with a separate trailing carriage attached to it (cost say £380) would accommodate 62 additional passengers—total 132 passengers,—and the train thus loaded, could, as the patentee informs us, be hauled at the rate of 15 miles an hour. Mr. Eckersley, of the Lancashire and Yorkshire Railway, speaks strongly of the necessity of diminishing the working expenses of short branch lines: he says, in his recent *Observations on Two Letters, &c.*—"As the system of branch lines becomes extended, I feel persuaded that a great alteration will have to be made in the mode of working them. Either a lighter description of locomotives, with a cheaper staff, or horse power, will have to be resorted to, if any profit is to be made from most of these branches." We think the above invention of Mr. Samuel is calculated in a great measure, if not entirely, to meet the difficulty.

£20,000 or £30,000 per annum, should require an outlay of £60,000, how absurd it would be to say that such outlay ought to be taken out of income."\* At the same time the desirableness of closing the capital account as early as possible, unless in special cases submitted to, and approved by, the shareholders, will be generally admitted.

Railway directors may, however, do more than this: they have it in their power to adopt such mutual arrangements amongst themselves as will be no less for the benefit of the public than of the proprietors of railways generally. The legislature has very much encouraged the idea that competition may exist between railways; and they have been too ready to support new lines for the express purpose that they might come into competition with the lines already formed. As regards railways, the idea of competition will be found in the end to be a mere delusion. It may exist for a time, but its effects upon railway property are too ruinous to allow it to be persevered in. The result arrived at will inevitably be amalgamations, or traffic arrangements for the mutual advantage of the companies concerned. It is a gross mistake to suppose that the public can be a gainer in any respect by having two lines of railway between two given points, where one line would have been sufficient for the traffic. A competing line may be granted by parliament and set to work; competition may for a short time go on, and the public reap a temporary saving in low fares; but before long the companies will find the competition quite ruinous so far as they are concerned, and the inevitable result is an amalgamation or arrangement by which further competition is stopped. And the consequence to the public will be, that they will have two lines of railway to support instead of one; the fares charged will thus require to be higher than if only a single railway had existed, for it is clear that the company could have afforded to carry passengers for much less on one line of railway, than on two lines (involving double the outlay of fixed capital, and double working expenses); and the issue of the whole is, that the public are the sufferers by the unnecessary outlay of capital on what the legislature intended to be competing lines for their benefit. Mr. R. Stephenson has, in a word or two, described the whole case—he said truly, "where combination is practicable, competition is impossible." It is in fact the interest of the public, as it is the interest of railway proprietors, to keep down the original cost of lines in the first place; as, if unnecessary expenditure is incurred, the public must pay the price in the end—railway property, like every other description of commercial investment, being entitled to pay a fair average profit to those who invest in it, derived from the rates and fares charged upon those who take the use of it. Probably there is still too much of the competing spirit among the old companies, which might wisely be dispensed with. Personal rivalry occasionally operates, not at

Traffic arrangements for mutual benefit of railways should be adopted.

Railway competition impossible.

The public pay the cost of competing lines in higher fares.

\* Mr. Hudson's letter to Mr. Brancker, October 24th, 1848.

all to the advantage of the property managed. Railway companies will find it their true interest to drop all this hostile feeling, and to arrange amicably for the general good. Shareholders themselves should see to it, for they are the chief sufferers. Nor is the public any better served thereby, but the contrary.

But the charge of "monopoly" is raised when companies amalgamate or arrange for the mutual interchange of traffic. The question is—are railway companies entitled to a fair and remunerating charge for doing the public work?

If so, their proprietors would be acting an insane part to do the public work for less than a fair and remunerating charge. The public is not benefited by getting their work done at a loss to the proprietors of railways; the proprietors of railways forming a very large portion of the public. No class is benefited by having work done at less than its real value. The loss always falls on the general public in the end.

The public adequately protected against railway monopoly.

But the public must have "protection." Well—and has not government interfered more to cut down the profits of railways than with any other description of property. Nearly all companies are at liberty to divide as high a percentage among their shareholders as they can make, with the exception of railways. Parliament has fixed limits on the dividends of railways—pared down their passenger fares and traffic, which are all limited by act of parliament—compelling the company whose line has cost £80,000 a mile, to charge no more than that whose line has cost only £10,000: all have been stretched on the same Procrustes bed. Surely, the public have a sufficient protection against monopoly in this fact.

The interest of railway companies to accommodate the public most efficiently.

But the public are further protected against high monopoly charges, by this other important circumstance—that it is the direct interest of all railway companies to keep down the charges to such a point as to induce the public to make use of the railways to the largest possible extent. It is their direct interest to bring railway travelling within the reach of all classes; and this can only be done by making it safe, comfortable, regular, and as cheap as possible. Here we have the best protection for the public in the interest of the companies themselves; and not in the competitive principle, which, however applicable it may be to other branches of trade, is certainly not applicable to such property as railways, for the reasons above stated. As Mr. Saunders observed before the Parliamentary Committee in 1844, railway companies "would always come to charge that rate which would be most productive." If low rates are found to be most productive, as many aver they are, then low rates will be charged. But if not, rates must be charged that will yield a reasonable profit to the proprietors of railways. And to this the public can have no just grounds of objection.

The periodical publication of railway accounts in a full and complete form, has been advocated as a means of increasing the public confidence in railway property. And there can be no reasonable objections to this by railway companies, except where they have something to conceal, which ought not to be the case. The recent public alarm as to the stability of railway property has, we believe, originated, in no small degree, in that undefined dread which mystery generates. The recent publication of their financial position by the leading companies, has imparted a general confidence to railway proprietors, and proved that the open and above-board policy is always the best. The bill which was introduced in the last session of Parliament, intended to provide for the effectual audit of railway accounts in certain cases," need not have been so strongly opposed by the heads of the great companies; as it would have tended most probably, by the official publication of railway accounts, to allay much of that fear which has recently haunted the minds of shareholders. Capitalists who invest their money in undertakings of so national a character and extent as railway property, are entitled to have a full knowledge of the financial concerns of such property—much more than the accounts of railways, as usually published, are calculated to give them. Such a measure as that referred to, is still called for, and will most probably be passed at an early date. Railway companies generally have, we believe, nothing ultimately to fear from the most searching investigation.

Publication  
of audited ac-  
counts in de-  
tail.

There is one point on which Parliament ought to be pressed by railway companies, and where the relief afforded would be very considerable; we mean as regards the arbitrary rating by parochial officers of the land on which railways are constructed. No sooner does a railway penetrate into a rural district, than all the rural interests pounce upon it as a lawful prey. High prices are extorted for land, for compensation, and for damages; and then, when the railway has been constructed, down come the parochial and county officers, and assess the railway lands and property at from 50 to 100 times their former rate! They lay on their arbitrary assessments so heavily as to make the small portion of the county land on which the railway is constructed, pay not less in many cases than 50 per cent. of the whole rates! They assess railway land at once in a round lump sum. The Brighton Railway passes through a narrow slip of land in the extensive parish of Keymer, yet is compelled to pay a higher amount of rates than all the rest of the parish put together. For fifty miles of the Manchester and Leeds Railway, the rates paid amount to upwards of £12,000 per annum. When one parish has succeeded in getting a high rate, the next parish tries to extort a still higher; the result of which is, that the rating is sometimes so high as to equal the nett profits. But the rank injustice of the present system of rating, is best exhibited by the following table, compiled from a return given in by the London and Birmingham Company to the Select Committee on Railways in 1844:—

Rating of  
railways—ap-  
plication to  
Parliament  
necessary.

Instances of  
the oppressive  
rating of rail-  
ways.



County.	Rateable Value of the Land in the different Counties before the Railway came.		Rateable Value of the Land occupied by the Railway at the average rate per acre of the respective Parishes.		Value at which the Railway and Buildings are assessed.		Rate per mile of Assessment on the Railway.		Per centage of the whole Parochial Rates paid by Railway.	Additional value conferred on the Land of the Counties passed through by the Railway at 20 Years' purchase of the Annual Rent-charge from which the Railway has relieved the Parish.
	£.	s. d.	£.	s. d.	£.	s. d.	£.	s. d.	£.	s. d.
Middlesex .....	44,778	7 11	240	2 11	21,617	0 0	965	5 0	48	6 0
Hertford .....	87,591	7 4	460	2 4	20,176	8 7	1,095	7 8	23	0 0
Buckingham .....	52,844	3 8	527	3 8	20,627	0 8	803	10 0	39	0 0
Northampton .....	48,306	13 11	472	10 11	19,406	1 11	955	0 0	40	2 0
Warwick .....	75,552	14 2	616	5 2	39,269	13 4	1,388	10 0	52	0 0
City of Coventry .....	41,725	12 6	82	12 6	5,500	0 0	1,525	0 0	13	4 0
Worcester .....	15,886	11 1	46	11 1	1,410	18 0	868	0 0	9	0 0
Total .....	366,685	10 7	2,445	8 7	128,007	2 6	1,085	13 0	32 per cent.	354,637

Here we find the land which, before the railway penetrated these districts, was valued at only £2,445, rated after the railway had been constructed upon it, at £128,007; and this although a large amount of employment had been furnished to the poor of the district, its productive resources largely increased, and great additional value given to the adjoining lands. The case is one of great hardship to railways; and we trust that a united effort will be made by the companies to bring the case forthwith before Parliament, with the view of obtaining an effectual mitigation of the burden.

As the expenditure on further railway works is brought within a narrower compass, and the companies apply themselves to the development of the traffic of their respective concerns, the panic that has recently overwhelmed us may be expected to disappear, and capital will again spontaneously flow towards railways as an investment. There can be no investment of a really sounder character, or promising a more certain ultimate good return. Every advance made in trade and population will be to the advantage of railway property. Competition will subside: railway interests become assimilated or arranged so as to work together harmoniously and profitably. The traffic requirements of the country promise to increase yearly as the great free trade measures of Sir Robert Peel come more into practical operation. More extensive publicity of the actual condition of railways will dispel dread, and the confidence of the public be restored. The pressure for money in the shape of calls being passed, the men who lie in wait for safe securities will then invest: it is in such times as these that such men act largely, and lay in stock at low prices, watching the turning-point in the market.

Prospects of  
railways cheer-  
ing.

## VI.—RAILWAY GUARANTEES.

Causes of guarantees—Purchase of lines under guarantee—Guaranteed shares as an investment—Guarantees under special acts—Guarantees under general act—Companies' power to create and issue guaranteed shares—Superiority of guaranteed shares as an investment.

In times of monetary pressure such as was experienced in 1842-3 and during the last two years, railway as well as other companies have found it necessary to guarantee a minimum of interest on the share capital created and called up by them, in order to raise the money indispensably necessary for the completion of their works. By this means capital has been raised which, but for such encouragement, it may with certainty be averred, would never have been subscribed for. The practice is in no case a desirable one, and is generally resorted to by railway companies only as a last alternative. Liabilities of a permanent and invariable character, no matter how favourable the paying prospects of railways may be, are to be avoided, unless when other means of raising capital fail. In such cases, the charge arising from a permanent guarantee to the shareholders of the company itself, as compared with the charges arising from the raising of money on loan at usurious rates of interest,—or on the other hand, the loss to the shareholders from large masses of capital lying altogether unproductive in consequence of the non-completion of works,—is a matter of arithmetical calculation; and in nearly all cases, we believe it will be found that the guaranteeing of preference dividends to the allottees of the shares created in such emergencies, is, in the end, a sound policy, and justified by a review of all the circumstances of the case.

Causes of guarantees.

The purchase of rival or competing lines under a guarantee, is in no case desirable, and we fear that much of the injury done to railway property has arisen from the extent of the obligations of this nature which many companies have come under, for the purpose of stopping the competition of rival lines. For this evil, the legislature is virtually to blame—it sanctioned rival lines, *because* they were competing lines, and then sanctioned the buying of them up out of the field of competition! This is one of the burdens which the legislature has almost wilfully fastened on the backs of railway proprietors. Many of these lines will nevertheless be found to yield such profit as to cause no ultimate loss to the shareholders, but actually to prove a considerable source of gain; and others have been obtained possession of in order to procure and increase the remunerative traffic on lines already existing.

Purchase of lines under guarantee.

As regards, however, the superiority of these guaranteed railway stocks as an investment, there cannot be two opinions. They are equal, if not superior, to any other existing investment.

Guaranteed shares as an investment.

Guaranteed railway shares are of two kinds,—one authorized and guaranteed under special acts of Parliament, the other created and sanctioned by the resolutions of the shareholders, under the general powers for converting loan into share capital, contained in the Companies' Clauses Act of 1846.

Power for raising loan capital under their special acts.

The guarantees made under special acts of Parliament are as secure as any investment can possibly be made—as reliable as the government funds, much more so than Bank of England dividends. The shareholders guaranteed under such Acts, must be satisfied of their claims, (after the mortgagees) before the guaranteeing company can divide a shilling.

Guarantees under special acts.

The second description of guaranteed shares we regard as equally reliable. They are created as follows:—

Guarantees under general act.

All railway companies have power under their special acts to raise a certain amount of capital in loans—generally one third of the whole capital authorized to be raised. By the Companies' Clauses Act (8 Vict. c. 16), railway companies are empowered to convert such loan capital into share capital, and to create new shares to such amount as is authorized by the shareholders to be capitalized. By clause 58 in this act, it is enacted, that if at the time of issuing such new shares, the old shares are at a premium, they shall be “apportioned among the then shareholders in proportion to the existing shares held by them respectively;” and by clause 60, it is enacted, that if at the time of creating such new shares the existing shares be *not* at a premium, “then such new shares may be of such amount, and may be issued in such manner, and on such terms, as the company shall think fit.”

Companies' power to create and issue guaranteed shares.

As the necessity for issuing new shares with a preferential dividend guaranteed to the capital called up on them, exists only at times when the original shares are at a discount, and when capital on loan cannot be raised under the borrowing powers of railway acts (as has been the case during the last twelve months) it would appear as if the above provision (in clause 60) had been specially intended by Parliament for the purpose of enabling railway companies to raise capital by extraordinary means,—such as the guaranteeing of a preferential dividend on the loan capital authorized by the shareholders to be converted into share capital. The power to create such shares appears to be perfectly clear, and we understand that the highest legal authorities have expressed only one opinion about the matter.

Superiority of guaranteed shares as an investment.

As an investment, we regard these guaranteed railway stocks as secure and reliable. The amount guaranteed cannot be reduced; and the holders of the guaranteed shares have the security of the revenue of the property on account of which the guarantee is made, that it will be fulfilled. 3 per cents. *may* be reduced (indeed the Chancellor of the Exchequer very

recently hinted the necessity of such a measure),\* but railway guarantees must be regarded as permanent. Were shareholders to attempt to rescind the resolution by which their guaranteed shares were created and issued, a Lord Chancellor's injunction might be relied on to prevent so barefaced an attempt at repudiation and defraud.

The reliable character of guaranteed shares has recently attracted the favourable notice of investors, and notwithstanding the severe depreciation of all other kinds of railway stock, guaranteed shares have kept their ground in a remarkable degree during the last year; and we have no doubt that they will continue to be more sought after by parties in quest of an investment yielding a safe and unfluctuating rate of dividend.†

\* See his Speech of 2nd March, 1847.

† For much useful information on this head, see Mr. Whitehead's "*Railway and Government Guarantee*," containing detailed and accurate lists of the various descriptions of guaranteed stocks.

## [APPENDIX.]

TABLE OF RECEIPTS PER MILE.

Years.	Mean number of miles open in each year.	Total increase of mileage per cent.	Total Traffic receipts.	Yearly increase in Traffic receipts per cent.	Average receipts per mile per annum.	Average receipts per mile per week.
			£.			
1842	1409	...	4,341,781	...	3081	59
1843	1566	11.14	4,842,655	11.53	3092	59
1844	1702	8.50	5,610,982	15.86	3296	61
1845	1904	11.22	6,669,224	18.85	3502	67
1846	2326	22.16	7,689,874	15.30	3306	63
1847	3092	32.93	8,975,671	16.72	2902	55
1848	3905	26.25	10,068,018	12.17	2578	49

The above table is compiled from Mr. Hackett's elaborate table in *Herapath's Journal*, of January 6th, 1849. We are not aware what are Mr. Hackett's data; and believe that in some respects they are inevitably deficient from the very imperfect traffic returns of companies, at present published. Admitting them, however, to be equally correct as regards all the years named, it will be observed that there is a falling off in the weekly average in recent years, as nearly as possible in proportion to the extent of new mileage opened. Thus, up to 1845, the increase of traffic receipts more than keeps pace with the increase of mileage; because the increase of mileage in 1843, 4, and 5, is small; but when it increases, as in 1846, 7, and 8, at the rate of 22, 32, and 26 per cent. as compared with the years preceding, then the increase of traffic receipts does not keep up with the increase of mileage, but falls short—for this reason unquestionably, that the new railways require to be some years at work before their real and legitimate traffic can be secured and developed. Give the new railways time, and the average receipts will reach the standard of 1843, 4, and 5, without any difficulty. It must also be kept in mind that the mileage of the new railways is generally much less costly than that of the old, and a considerably smaller weekly average will be sufficient to pay as large a profit as the higher average revenue of the older railways.

**LIST OF RAILWAYS:**  
**THEIR REVENUES, DIVIDENDS, AND AVERAGE COST PER MILE.**

NAMES OF RAILWAYS.	Comparative Weekly Traffic for Three Years.						Total Receipts for last Half-yr. of 1847.	Total Receipts for last Half-yr. of 1848.	DIVIDENDS.				Average Cost per Mile.
	Last Week in 1846.		Last Week in 1847.		Last Week in 1848.				1846.	1847.		1st Half-yr. of 1848.	
	Miles Open.	Wk.'s Retn.	Miles Open.	Wk.'s Retn.	Miles Open.	Wk.'s Retn.				1st Half-yr.	2nd Half-yr.		
Belfast & Ballymena ..	..	£.	..	£.	37½	£.	£.	£.	Cent.	Cent.	Cent.	Cent.	£.
Birkenhead, Lanc. } & Cheshire .....	14½	626	14½	680	15	851	19,728	21,607	2½	In.5 p.ct.	In.5 p.ct.	In.5 p.ct.	44,174
Caledonian .....	..	..	..	..	141	3729	..	122,846	..	..	..	..	27,650
Chester & Holyhead ..	..	..	..	..	81	1372	..	..	..	In.4 p.ct.	In.4 p.ct.	In.4 p.ct.	..
Dublin & Drogheda ..	..	737	31½	747	35½	670	22,928	19,693	4	2.77	..	2.16	21,558
Dublin & Kingstown ..	6	667	7½	613	7½	841	26,856	25,449	8	7	6	8	16,300
Dundee, Perth, & } Aberdeen .....	..	243	47½	641	47½	875	23,227	28,024	4	..	8	8	11,916
East Anglian .....	..	..	..	480	63	724	..	17,395	..	..	..	..	23,568
Eastern Counties ..	..	9754	277½	14714	307	15748	310,839	306,697	6½	5	4	4	33,272
East Lancashire .....	..	765	24	830	44	1751	25,918	38,061	..	1.4½ p.ct.	In.5 p.ct.	In.5 p.ct.	33,000
Eastern Union .....	..	420	44	1203	51½	1210	30,102	35,202	..	In.5 p.ct.	In.5 p.ct.	In.5 p.ct.	25,751
Edinbro' & Glasgow ..	46	3282	52½	3260	57½	3089	99,079	96,834	6	6	..	6	46,197
Edinbro' & Northern ..	..	..	34	528	70	1667	..	49,634	..	In.4 p.ct.	In.4 p.ct.	In.4 p.ct.	30,685
Glasgow, Paisley, } & Ayr .....	40	2014	66½	2005	102½	2327	70,868	67,692	7	7	6	4	32,458
Glasgow, Paisley, } & Greenock .....	22½	792	22½	922	22½	811	34,488	29,332	1½	3	4	2	37,535
Great Southern & } Westn. (Ireland) ..	..	..	90	1990	131	2919	47,464	84,293	..	..	In.4 p.ct.	In.4 p.ct.	19,900
Great Western .....	181	19558	277½	21367	306½	18662	522,728	528,980	8	8	7	7	38,716
Kend. & Windermere ..	..	..	10½	99	10½	128	4398	4842	..	..	..	..	17,000
Lancaster & Carlisle ..	..	..	70	1480	70	2015	38,816	59,861	..	4	4	4	18,456
Lancashire & Yorks. ..	..	8387	122½	8698	172½	11134	249,208	295,933	7	7	7	6	61,271
Lon. & N. Western ..	362	39282	428½	40386	435	45742	1,119,923	1,130,892	10	9	8	7	41,612
Lon. & Blackwall ..	3½	670	3½	722	3½	606	27,490	..	36s.	0.90 p.ct.	0.80 p.ct.	1.12 p.ct.	289,988
Lon., Brighton, & } South Coast ..	64½	6164	152½	8057	162½	8680	254,801	262,946	6	4	4	2½	37,812
Lon. & S. Western ..	92½	5919	188	8604	215	10214	242,753	265,300	9½	9	8	6	33,090
Manchester, Shef. } field, & Lincoln ..	..	1858	44½	1998	62½	2783	60,517	76,232	2½	In.5 p.ct.	In.5 p.ct.	In.5 p.ct.	37,687
Midland .....	178½	18861	397½	22976	463½	23677	571,257	591,715	6½	7	7	6	24,761
North British .....	..	1152	83	2090	99	2395	62,495	68,909	5	5	5	5	38,266
Shrews. & Chester ..	..	..	23	527	47	1506	14,114	25,705	..	..	..	..	16,500
Scottish Central .....	..	..	..	..	45½	824	..	27,765	..	..	..	..	..
South Devon .....	..	709	29	766	50½	1330	23,600	40,326	..	..	..	..	53,636
South Eastern .....	82	6789	142½	7754	161	8139	260,190	250,650	6.34	6.34	6.34	6.34	49,057
Taff Vale .....	30	1241	30	1646	38	1396	43,121	47,915	5	5.55	6.35	6.35	20,501
Ulster .....	25	715	25	653	36	653	20,712	20,663	5	..	..	24 6s.	19,440
Whitehaven Junctn. ..	..	..	12	185	12	170	5,594	4,869	..	4½	3	3	12,258
York & N. Midland ..	..	5015	234	7908	260	7956	224,633	229,358	10	10	10	8	20,000
York Newcastle & } Berwick .....	..	7332	236½	14025	269	14155	354,230	360,892	9	9	9	8	29,430

NOTE.—The published receipts do not include many items of revenue, such as rents, carriers' accounts, wharfage, season tickets, &c., which only appear when the half-yearly statements are made; we cannot therefore vouch for the accuracy of the above Table in all respects; but it is as nearly correct as we can make it, from the incomplete statistics and insufficient returns which have been hitherto published by the railway companies.

# A LETTER

TO THE

RIGHT HON. LORD JOHN RUSSELL,

ON THE

ASSUMPTION OF RAILWAYS

BY

GOVERNMENT.

BY

ARTHUR W. HART.

LONDON:

J. & C. MOZLEY, PATERNOSTER ROW.

JOSHUA WALMSLEY, LIVERPOOL.

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1849.



# A LETTER,

8c. 8c.

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MY LORD,

THE kingdom is emerging from unparalleled depression, created by a sudden transition from protection to free trade : and other causes can be defined which have been co-agents in promoting the greatest commercial distress ever recorded in the annals of English history. Periodical panics and monetary convulsions will, from time to time, occur, and legitimate causes can be ascribed for these visitations ; but, in directing your attention to a serious grievance, as deep seated as intolerable, I trust I may attract the attention of government to *the cause*, which, despite of the strongest advocacy in its behalf, will be proved to be the very foundation of all that misery which has enveloped our commerce in ruin, stagnated trade, and left traces which years of prosperity will barely efface. I allude to that mart termed the " Money Market, or Stock Exchange of London," whose operations give the tone to public securities. A glance at the daily fluctuations in the value of consols and of other government securities, when this country is in a state of perfect repose—free from agitation—with a plethora of money—our internal trade reviving—our railway traffics sustaining a fair rate of dividend, the railways themselves having proved their perfect solvency and responsibility, showing the soundest evidences of dawning prosperity, will evince that in the money and railway market

"Something is rotten in the state of Denmark."

It is a well known fact that this market is controuled by two bodies of speculators, who exist in the same arena. A slang cognomen marks the buyer, surnamed the *Bull* ; whilst the seller is termed a *Bear*. In explaining their relative positions



we can trace the cause and effect of daily operations, whereby the value of money *is fixed*, not by its intrinsic worth, but by the results of *determined gambling* by men who evade the law, but constitute their Exchange a court of honour, whose operations, as we have witnessed in the past six months, have spread ruin and desolation in almost every rank of society.

The *Bear* in the Stock Exchange is a professional alarmist, in many cases a stranger to truth, and who, to carry his game, will "stick at nothing." His operations are confined to depreciating the market; and as he sells what he never possessed, it is his care to watch and buy back as soon as he can glean a commission on the operation. The Bear is a sensitive creature; the least rumour affects him for gain or loss; and as he gambles for thousands, and does not possess a tithe of the amount he gambles for, he considerably balances his book each day, thus knowing his gain or loss on the day's operations.

The *Bull* is a sanguine man; he deeply studies the craft of his antagonists, watches the course of events, and is guided pretty much by the reports and aspects of continental affairs. He likewise, being a professional gambler, as he purchases for the rise, generally closes his book each day, unless the continent be in profound repose, England unagitated by domestic discord, and money abundant; he then may continue his operations for the account, as the fluctuations are slight, buying and selling, so that at the close he have but a small account to arrange.

These, my lord, are the constituted parties in the Stock Exchange whose operations are for the "weal or woe" of the nation. They attach a value to money, not by its intrinsic worth, but by the effect produced by a "game of hazard." If the Bears muster sufficiently strong, and in full force, they can depreciate the value of consols and other securities to an extent most ruinous in a six weeks' account; and as a corresponding depression (but to a more serious extent) affects the share market, no conception can be formed of the sudden involvements which befall the holders of shares in the provinces.

Consols represent a certain security, scattered through the land, and held by peer and peasant. The interest on this security is defrayed by the impost of taxes. When government requires a loan (and all loans form part of these government securities), she takes from the monied capitalists of England tenders for it. These capitalists are neither stock brokers nor stock jobbers, they are not even members of the Stock Exchange. They, as merchants and capitalists, open books of

subscriptions for the loan amongst the nobility and gentry of the land, and thus is it provided. Now, my lord, let us visit this mart where the bulk of our monetary operations is carried on. I ask you, how many of these *jobbers* on the Exchange are capitalists? How many have contributed to a loan? My reply is *not one in fifty*. Then, how is it that we find these enormous transactions daily quoted in no other place but the Stock Exchange of London? The reply is simply, that from time immemorial the city of London has fostered a system of gambling in the Stock Exchange, and has never seen fit to interfere or check a vile system of speculation, which, in many cases, has resulted in suicide, ruin, and disgrace.

It is remarkable that government has never interfered to protect these mighty interests of the country, whereon are based our stability and commercial security; and that by such neglect, the evil has extended to the detriment of the entire community. For where railways are depressed to the extent we have witnessed in the past six months, it cannot surprise us that great difficulties should be experienced in collecting calls, and thereby, from a dearth of money to complete the railways, lead to a suspension of the works, and consequently the humble, but honest and hard-working "navvy" thrown out of employ. Thus does every grade of society suffer from the influence of these transactions. But if we trace the operation of the system, and believe that many of the *bona fide* speculators are capitalists, how does it arise that their transactions are conducted by an institution which closes its doors against the public? It is often stated that defaulters to a large extent have been announced during the settlement of an account. To trace their position, we must pre-suppose the defaulter as acting for outdoor connexion, and that the thirst for gaming exists to an extent amongst the public. If such be the case, it is passing strange that the public tolerates the system, which has for its object the *plucking the uninitiated*, who are not witnesses to the transactions conducted by their broker; and even that person oftentimes becomes the victim of his employer. But it is also equally true that where defaulters are announced, generally speaking, they are the smaller fry, who, inexperienced, are *let in* by the old and accomplished speculator; for we seldom hear of the older jobbers or speculators becoming defaulters,—“they sow the whirlwind,” the younger members “reap the storm.” Viewing the sudden depression of shares caused by the system I have explained as the ground-work of commercial distress, I will ask, how can we ever be free from panics, when no

check is given, or no plan adopted by government, to render the transactions legitimate.

The eminent historian of our colonies has pointed out, in his able defence of our railways, that the deterioration in the London and North Western Railway Stock alone, during the past panic, amounted to four millions of pounds. This, my lord, speaks volumes against the system ; and the mischief which springs from it may tend to deeper distress than has yet befallen us.

But as our monetary institutions have now increased, and as the field for speculation has been enlarged by the admission of some two hundred millions value of railway stock, I trust the time has now arrived when some investigation is necessary, whereby, if possible, our monetary operations shall be confined to legitimate speculation, and thus placed on a firm and imperishable basis.

Remember, my lord, *the tone of the market is taken from the value of government securities, WHICH ARE EXCLUSIVELY DEALT IN, IN LONDON !* The provincial Stock Exchanges never have transactions in consols or any other security, save railway stock and debentures or local investments in their respective neighbourhoods. Thus, a depreciation in London of one per cent. in consols, which fall has been forced by the hazardous gambling of a few desperate alarmists, without the semblance of reason or fact in their manœuvres, is followed by a depreciation of five and sometimes ten per cent. in the value of railway securities.

The provincial exchanges are constantly, nay daily, convulsed by these *rigs*, and their supporters suffer severely. For if, by calculation, an investor thinks the period has arrived when an investment is safe, he finds to his horror that from the circumstance of *a French ministry being out-voted*—a concocted falsehood or some absurd rumour—the Bears have taken the cue, had a field-day, and succeeded in forcing down stocks ; and, as a matter of course, the unfortunate provincialist discovers to his cost that the market may fall “deeper and deeper still.”

But, if laws do exist and are evaded, if gambling houses are exterminated, Derby sweeps suppressed, and the terrors of the suspension of a license is held over the innkeeper who permits a sweep in “his house,” I ask you, wherein is the difference between the man who gambles on the running of a horse, and he that openly casts the die on the rise or fall of stocks during a six weeks’ account ? The one tests the strength of a horse ; the other proves the strength of his

hazard in forcing up or depreciating the price of consols, without reference to the existing state of things, the prosperity of the country, or its present repose.

But, my lord, I arrive at that disclosure which will tend to unravel the mysterious working of this system. There exists, I believe, a law which defines that to complete the purchase or sale of securities, of whatever character they may be, *it shall be placed on a stamp*, the duty being regulated by the amount transferred, and I believe a very heavy penalty is the result of the evasion of this act. Then, my lord, *the ulcer is apparent!* The *Bear* who sells in thousands *what he never possessed*, and the *Bull* who buys *what he never intended to hold*, (as both operate for the day, or at farthest for the account,) so manage their vast operations that it becomes merely a question of differences of profit or loss, which is arranged each settlement; and, perhaps on one million of consols, bought and sold by these gamblers, *not one shilling consideration is passed, and not one transfer used*. And thus many of the "small fry," who sell £5000 consols at 90, would be satisfied to buy back the amount at 89½; *as he has no stamp dues to pay, which legally would have transferred £5000 of stock*, he is satisfied with the gain of £12 10s. and closes the transaction.

Now, a glance at the share market for the past few months will give us startling facts. London and North Western *fell to par*, during the panic which affected this stock and all others so seriously. The continent was still in an unquiet state, France still agitated by her clubs and revolutionists—Austria in open rebellion—Hungary ditto—Prussia slowly recovering from a state of anarchy—the Pope deposed—Spain on the eve of civil war—and the flames of civil discord still smouldering in Portugal. This was the continental picture! And our own island, in happy contrast, enjoying a state of profound repose, the revolt (if we could term it a revolt) in Ireland suppressed, trade slowly reviving after the perils of 1847, the bank possessing fourteen millions of bullion, money worth but 2½ per cent., and *little demand for it*. Still, from the causes I have narrated, stocks were forced down, and the crusade against railways was so successful that the fall in this description of security alone was estimated at the enormous sum of fifty millions; and to calculate the fall from the highest quotation to the lowest would amount to considerably over *one hundred millions of pounds*. The quotation of London and North Western stock was *at par on the 25th of October last*. Consols with all the continental agitation were quoted at 84½ ½;

but suddenly, by causes incomprehensible, the *Bulls* (with the foreign picture I have described unchanged) have plucked up courage, forced the market up from  $84\frac{3}{4}$ , and, on the 27th of January, 1849, we have consols at  $91\frac{1}{2}$ , and London and North Western 138, with *shares extremely buoyant*. The provincial exchanges declaring "*that the steady rise in shares has at last induced heavy purchases for investment*. Alas! how short lived is this prosperity! A few fleeting hours, and the alarmists are in full play! France is about to enact the farce of a counter revolution; and, forsooth, *this must act on our stocks and RAILWAYS, forcing the one down one and a half, the other six per cent.*!"

Now, mylord, let us take the speculators engaged on Monday, the 29th of January, 1849, in forcing down the market. *Do you think* that, if every transaction was put on the proper legal stamp, this depression would have taken place? Do you think it would have checked this *illegal speculation*? Is not this system a most pernicious one, pregnant with evil, as it relates to the welfare of the nation? Is not an investigation desirable, to ascertain *how far the Stamp Act is evaded, and to what extent does the evil exist*? I am sanguine, my lord, from the sympathy which exists between the consol market and the share market (the first of which "gives the tone to the value of securities generally" and thereby *prejudices the whole of the provinces*), that this system jeopardizes public property, victimizes those who live out of London, and, in fact, from the ramifications of trade, spreads ruin far and wide. A stop should be put to these fraudulent practices, for it is a well-known fact that bankers, from the serious fluctuations of shares, have refused to take railway stock, even as *temporary securities*, although the dividends accruing are double those of consols or other government stock. Why this caution? Simply because no faith can be placed on the presumed value of money founded on this system; one degrading to the nation and the ground-work of all the evils which have from time to time visited the kingdom.

If the stamp duty was enforced *on every contract passed for consols and every description of government securities, shares, &c., &c.*, this gambling would cease, the *Bear* speculator would have to force his market much lower to cover the chance of profit after the stamp duty is paid on his re-purchase, and the *Bull vice versa*. This enforcement of the act would protect the legitimate investor and speculator, and the provincial Stock Exchanges would be benefitted, inasmuch as they would feel the advantage by this system of hazardous gambling in the

London market being checked, if not entirely stopped, it being a nuisance which produces incalculable mischief to all who are interested in the steady valuation of shares.

Were I, my lord, to extract the commentaries to be found in the daily journals on the state of the market for shares, it would be astounding that the system has lasted so long. One paper thus expresses itself:—"The market has been over Bullied, and speculators are becoming sensitive on the position of matters in France. *They are changing their accounts (i. e. becoming Bears)*, and thus giving momentum to the fall." Another, equally as intelligible:—"Shares have been influenced by the fall in consols. These heavy fluctuations and variations can only be accounted for by the timidity of speculators, but the *rationalis is not understood by actual circumstances.*" These are specimens of the views of daily journalists, whose sole attention is directed to the movements in the money market; if *they* cannot understand the cause or trace the result, it is not surprising that the harshest term of *swindling* is applied to these transactions. So long as the system is tolerated, so long will the country be subject to periodical panics and convulsions, and, in their train, those ruinous results, which all who recognise this as a great commercial country must deplore. The causes of the mischief are apparent; the effect has been severely felt; the remedy is in your own hands; and let no time be lost in investigating the system by which the value of money *is fixed and regulated*; and in remedying this growing evil you will attach greater stability to our monetary institutions, and relieve the country of a serious nuisance.

Illustrative of this, a sudden re-action on the 30th of January has taken place, *and a fall of 1 in consols has affected shares 4 to 5 per cent.* Now, I cannot understand what the communications of the kingdom have to do with a fall in consols. The one depends on its traffics to sustain its dividend; and although *war* would affect every security in the kingdom, that which would be *least affected I hold* WOULD BE RAILWAYS; and still, by the present pernicious system, we find, from *undefined causes* (to use a mild phrase), they are more seriously affected than any other description of stock. Thus, we can trace a source of evil to the secret conclave of "Capel Court," *where transactions entered upon and closed on account of the public, are confined to a body whose operations savour of dishonesty, and are most unacceptable to those more immediately interested, in consequence of the Stock Exchange being closed against its very constituents!*

I trust, my lord, I have made out a strong case for govern-

ment interference. Unless something is done, and that speedily, there is no knowing the deplorable results which must periodically press on our commercial system, for it cannot be denied that many millions are invested in stocks and shares. And if we trace the proprietary, the bankers, merchants, and manufacturers, are our principal shareholders. The bulk of such securities are held in the provinces, and if the shareholders are excluded from a voice in fixing the intrinsic value of money, surely government should interfere (now that we have the elements of prosperity beaming on us) to the extent of *having the value of money regulated on honest calculation and honest principle*, and eradicate a system which, *so long as consols solely were speculated in, affected only the professional speculator and gambler*. But now that railway interests are involved to an extent amounting to one third of the entire national debt (and the bulk of such securities are held by the provincialists), their claims for the interference of government should not be allowed to pass unheeded. Their stake is immense. It has now become of such importance as to demand immediate protection.

I think it a great fallacy to assert that the disarrangement in our monetary matters can be traced to the large amount of railway calls pressing on the shareholders, and that railways generally were the ground-work of the monetary crisis of 1847. It is true the calls were heavy; but we find the bulk was collected without much difficulty, and in no instance was a legal process resorted to to compel payment by the trunk lines. A review of the railway market has exhibited a falling off in the dividends; but it must be remembered that where the larger, or trunk railways, divided 10 per cent., they had a monopoly of communication, now broken into by tributary lines. To the close of the year 1845, there was in operation 2050 miles of railway, with a yearly traffic of £6,670,000, and an average per mile for working of £3,470; whilst by comparison, there exists, at the close of the year 1848, in full operation, 4,420 miles of railway, yielding a yearly traffic of £10,000,000, with an average of only £2,550 per mile. We may safely calculate, therefore, that a year of such depression as 1848, yielding ten millions of traffic, will be followed by a much larger gross income in more prosperous times, with a lesser average for working expenses.

Viewing, therefore, the present position of the railway interests, and the dividends they are now dividing, we cannot attribute to them the calamities which have convulsed the money market. The causes do not meet the eye, but are easily traced;

and I trust I have written enough to prove the importance of the railway interests being protected by government. (This can be effected by a suppression of these illegal dabbings in funds and railways, and enforcing a stamp duty on every contract passed for money or the account. If the legacy duty is imposed—the income tax oftentimes harshly collected, and from those not bound by their income to contribute, but who, from want of means, are not in a position to resist the infliction; for the government has been known to enter, by its tax-collector, a warehouse, and *distrain* for taxes!—then why shall the London Stock Exchange be permitted to continue in a system which every unprejudiced mind must condemn, and which has proved so prejudicial to the country at large? It is a well-known fact that *the government itself has recently had large operations carried on by its brokers*. And whilst on this subject, I will take leave to remark on the bearings such transactions have upon the public. The Bank of England, as the government banker, regulates the issues and also the rates of discount. If money is plentiful, discounts low, and little demand for money, as may be witnessed *now* by reference to the bank returns, the bank, to employ its surplus capital, will *purchase consols and advance money on government securities*. Does this not give an undue incentive to speculation in these securities, where the facilities are so great for borrowing money? And if we regard the 3 per cents. as the security “which gives the tone to the market for every description of security”—government as well as railway—I ask you, my lord, are not the railway interests much prejudiced where undue speculation, unchecked, creates a depression in consols, whereby railways are at once most sensibly affected? We may remember that the Bank of England advanced heavy sums on public securities, and also purchased heavily in these stocks, at that period previous to the panic of 1847, when money was worth 2 and 2½ per cent.—discounts readily obtained—an immense impetus given to trade—and all appeared most prosperous; but a sudden drain of gold took place. What then occurred? The bank as suddenly “clapped on the screw”—*no forwarding loans* were called in—*securities forced on the market*—ruin stared every man in the face—there was no escape. Those engaged in business, who had made large investments in railway stocks, as being a preferable security to consols, the dividends being greater—the traffic steady—and the value of money so low, *found they could not realize on these securities*. The bankers were compelled in the provinces to throw on the market an enormous amount of railway shares for self-protection,



and thus the unfortunate shareholders, allured by the temptations thrown out by the Bank of England, *who created the glut and the dearth of money*, were sacrificed. Not that their railway shares were *intrinsically depreciated*, but that a pernicious system, *tolerated and supported* by government to some extent, had created a revulsion by which fully one half the entire investments in railways was swept off—we may say to the extent of one hundred millions.

Now, my lord, these facts are undeniable. If consols are to regulate the tone of the market, let that market *be an open one*. If that cannot be attained, let the Stamp Act be applied to every transaction entered into on the Stock Exchange. The speculative transactions will daily become “small by degrees and beautifully less”—a healthy tone will be imparted to the market—the capitalists who watch the productive traffic of the railways, whose gross income annually is increased by a million of pounds, will find a stronger inducement to invest for a safe return of 5 per cent. on railway stock than 3 per cent. in consols—the foreigner, possessing no confidence in his own institutions, will seek a safe investment in British securities—the trustee, who may be left to watch the interests of a large family, possessing a small capital, will seek that investment which will give the largest income to his wards—the mechanic and the more humble classes, seeing the chances of a fixed return, will gladly appropriate their savings to the purchase of those fractions of shares which most railways now present for investment; and you would thus lay the foundation for that prosperity which railways, by the magnitude of their capital and their constant increasing income accruing by traffic, will serve to perpetuate.

It is a strange anomaly that, now the public excitement and alarm has been dissipated by the prompt and explicit statements given forth by the leading railways, and which have set at rest any misgivings as to their solvency, we find most of the lines present at this instant a safe investment of 5 to 9 per cent. per annum; whilst consols pay 3 per cent. or a fraction above it; the income to pay which is derived from taxation. The only reply is, *the one is a government security and the dividend secured*. Then it behoves the government so to place the value of our public and railway securities on that footing that the rise or fall in stocks shall be fixed *on the intrinsic value of money* which a transfer completed indicates, and not by the absurd, ridiculous, and dishonest system now adopted.

The sudden elevation or depression in shares can be traced, in most cases, to the facilities afforded by unlimited specula-

tions, uncontrolled by any fixed system of calculations, and merely generated by a few hazardous individuals in *secret conclaves*, whose operations impart the tone to the public securities. This reminds me of a correspondence which passed during the recent panic in shares, between Mr. Brancker, of Liverpool, and Mr. Hudson. The former gentleman remonstrated on the system of accounts adopted by the Midland Railway, by which the value of these shares was seriously affected, and rested his grievance on this charge. Mr. Hudson, in his terse reply, spoke in a few words that which becomes the very essence of this pamphlet. "*If you can induce the SPECULATORS on the Stock Exchange to RUN UP consols from 84½ to 91, I make no doubt you will find Midland stock occupying a higher figure in the railway list than it possesses to-day!*" Mr. Hudson's prophecy has been fulfilled. Consols, on the 24th of October, 1848, were 84½ ¼, Midland stock 68 per contra. Consols on the 31st of January, 1849, were 91½ ¾, Midlands 98. If dissatisfaction has been expressed against the system adopted by the leading railway companies in rendering their accounts, this grievance has been remedied; and a glance at the railway list will show us that, however low railway shares have been depressed, the rise which has taken place has been an unnatural one, unfounded by any peculiar feature which has presented itself since the publication of accounts by the various railways, but merely by the strong sympathetic action which extends to shares on a sudden momentum given to consols. "It is the 3 per cents. which give the tone to every description of security;" and if gambling to so serious an extent as consols is permitted, we are never safe from day to day in any investment made in shares. And another strong ground for government interference, is the consideration of *trust monies*. It cannot be denied that, at the time government sanctioned so many railway bills and supported their claims to public confidence, large sums of money have from time to time been invested in railway stock; and, however *illegal* in the eye of the law such trusts are, still trustees have incurred a responsibility which extends to the value of the security when realized, against its value when invested. Surely with the knowledge that the "*rationale*" of the fluctuations in railways is not understood by actual circumstances, the sooner such transactions are understood, and the abuse remedied, the better. The widow and orphan would be benefitted thereby. We have had undoubted evidence of the wholesale gambling in shares in Capel Court during the late panic, in the fact that the leading railway transfer books show that fewer transfers (the only proof of *bona fide* transac-

tions) were registered during that period than at any other;—a conclusive and a great fact of the want of government interference in these matters. If we are to argue that railway calls created in a great measure the depression in railway shares, we must allow that those *who did speculate*, and gained or lost by the panic, would have been the parties answerable for the call, for had the law been applied, and each transfer placed on record, the proprietary of stock would have been changed; they who created the mischief would have been the parties most affected, and liable for that which pressed so heavily on the *bona fide* shareholder! For who can deny that the state of panic was such that a banker could in safety to himself hold shares as a security? And thus, in the *worst stage of the depression*, has many an unfortunate stockholder been utterly ruined by the gambling acts of others, and by a system which calls for immediate suppression. No railway interest ought to be so affected that its price should present a 7 per cent. investment, against 3 per cent. consols; still the London and North Western shares for a time touched *par*, and they divide 7 per cent.; but in most instances a much more advantageous return was presented, some as high as 9 and 10 per cent.! Now, to sum up, gambling drove consols to 84½, London and North Western to *par*, Midland stock to 68. *Cum multis aliis. Even lower.* Gambling alone has, since 24th of October, 1848, forced up consols to 91½, London and North Western to 138, Midland to 98. In the interval from the 26th of December, 1848, to the 26th of January, 1849, the rise in Great Western has been 22 per cent., and London and North Western and Midland stock 14 per cent. The rapidity of this rise *must tend* to deter legitimate investment. For a fluctuation of 5 per cent. in one day (as the 26th of January witnessed) involves a depreciation so enormous in amount as should induce, on the part of government, some measure of protection to those interested.

To illustrate the inconsistency of these operations we find the aspect of continental matters still remains unchanged. We are at peace with all the world; and at no period has the chance of war during the past twelve months been so great as that when the "*Oregon Territory*" was in dispute; or, more recently, when "*The Spanish Marriages*" closed our *entente cordiale* with France. These periods *did present threatening aspects*, and the feeling generated was "war with America," and again "war with France;" but shares, even then, never felt such a depression as they now labour under; but, on the contrary, were the only securities that were not so

*sensibly affected.* To what cause, then, can we attribute these serious fluctuations, *but to that of sheer gambling?*

Railways are of manifest importance to this kingdom. Their immense revenue demands a fair measure of consideration on the part of the government, as the following traffic tables will illustrate:—

#### PROGRESS OF RAILWAY TRAFFIC.

	Miles open.	Traffic.	Working cost per Mile.
In 1842 there were	1530	£4,400,000	£3,120
In 1848	1590	4,800,000	3,080
In 1844	1780	5,611,000	3,330
In 1845	2050	6,670,000	3,470
In 1846	2650	7,690,000	3,300
In 1847	3450	8,976,000	2,870
In 1848	4420	10,092,000	2,550

The increase in miles open is 2,890 from 1842; increase of traffic £5,692,000; with a decrease in the working cost per mile of *nine hundred and twenty pounds*; and, as will be noticed, a yearly increase in traffic and gradual decrease in cost of working. The question of dividend becomes comparatively of little moment to those who invest in railways, compared to the frightful fluctuations which take place on the London Stock Exchange, and are consequently communicated to the provincial Exchanges. The latter cannot protect their constituents from the evil. No opinion can be formed of the range of prices from day to day. The investment which on the Tuesday may be considered most favourable, may turn out on the Wednesday a serious loss, and liable to heavier depreciation; the *rationale* of which, as the London journalist describes it, “cannot, and is not accounted for by actual circumstances.”

Then, my lord, can we term this system, unbased on honour or morality, as advantageous to public credit? Does it serve to consolidate the interests of the empire, and the well-being of the community? If we believe that the whole traffic of this empire is rapidly becoming secured by railways, what stronger proof can we desire than that our commercial prosperity is hinged on a healthy action of our railways? that the depression of the one affects the other? and that the community at large, from the peer to the navvy, are also involved in the unhealthy system now tolerated? Surely, then, no time should be lost in annihilating, if possible, a grievance, against which the entire kingdom has protested.

If, my lord, you desire to impart stability to our railway interests, suppress this gambling. Legislative interference

might go so far as to impose heavy penalties on all transactions in government securities, foreign stocks, or railway stock, not duly transferred and *registered* on the legal stamp; and this would tend in a great measure to eradicate the evil. For, let it be remembered that the railways of the United Kingdom, when completed, will contribute some 13,500 miles of lines, involving a capital of 320 millions sterling, and returning, in the shape of gross traffic, annually, the sum of thirty millions.

I think these are circumstances which call for consideration; and feeling some hope that a movement will take place on behalf of shareholders generally, in order to resist this atrocious system, I shall devote the remainder of this letter to a plan I have the honour to propose, being of importance, to the government, whose revenue would be improved thereby; to the shareholder, whose stake in railways will be secured to a great extent from fluctuation; and to the kingdom generally, by its largest monied corporations receiving *government protection*. I allude to the "Assumption of the entire railway interests in the United Kingdom by government."

A retrospect to the character of our railway markets, for the past six years, must convince you that if a check could be given to speculations and gambling transactions in shares, where no stamp duties are paid or consideration passed, that our railway markets would not have been depressed *to the extent* we have found them, showing a fluctuation of one hundred millions, or about one-half of the actual paid up capitals of all the railways now in action, and which has occurred during the past eighteen months. And, again, viewing this as a commercial and manufacturing kingdom, I am disposed to think that no community, however composed, can, for any time, stand such shocks as our greatest monetary interests must receive by such depression in railways. Bankers, merchants, and tradesmen, all will be engulfed in that vortex which threatens them by a continuance of the evil.

A measure of relief to some extent would protect railways from any very serious depression if my proposition was entertained, which is that government should assume each railway in Great Britain and Scotland at its paid up value, and guarantee the dividends, fixing  $4\frac{1}{2}$  to 5 *per cent. per annum* in perpetuity on the lines now in existence and in traffic; railway consols bearing interest after this rate to be issued half-yearly; and the railways to be viewed, *for every legal purpose, as government securities*. To those lines far advanced towards completion, I propose that they take priority of all other lines whose bills are obtained, but whose advancement is not so marked;

and on completion, they (together with those railways in traffic within four years) shall receive railway consols at 4 per cent. interest in perpetuity. A period could be fixed for their completion by a competent railway board, to be appointed by government. And for the lines whose bills are obtained, but whose works are not advanced towards completion, the government should have the value of such shares on which calls have been paid, regulated by the railway board—shall assume the works—relieve all the shareholders from the liability of further calls—and for the value of such shares, either grant consols in perpetuity at 3½ per cent., or issue debentures, bearing such interest, redeemable in 8, 10, or 12 years from issue. If debentures were issued, it might tend to induce the humbler classes to invest their earnings in these fractions of shares, and thus turn this scheme to a moral purpose.

The government henceforth should devote not more than 25 millions annually to the completion of the railways, and loan books opened for raising that amount, returnable in not less than seven years, but renewable if desired, bearing interest at 3½ per cent. per annum.

These are the leading points of my project, the feasibility of which I hope will be apparent. No direction need be disturbed; but, in furtherance of my scheme, scrutineers or auditors might be appointed by government to investigate the accounts and position of each railway, and furnish government with the data whereby the rate of dividend shall be fixed for each. Directors should be nominated by government to each railway, and the officials who now issue the dividend warrants could perform the same duties in preparing the consol warrants instead; the same receiving the counter-signatures of the government inspectors, or a government seal, to confirm their legal character. No period could be more opportune than the present for government assuming the railways. Money is abundant—our continental friends, possessing no confidence in their own institutions, would be too glad to secure an interest in ours—and Englishmen, who have had a desire for lending their money on foreign loans, or investing in foreign railways, after the lesson they have had in 1846, would readily embrace the opportunity to secure their capital at home. Railways have become the wealth of this nation, and a mighty impetus has been imparted thereby to commerce and manufactures. Our monied men would be enabled to assist, by temporary and seasonable relief, those engaged in mercantile life, whose only available security may be railway shares; government would participate in the surplus arising after the dividends are paid,

add to surplus to the credit of the revenue of at least two millions per annum would arise, whilst railway shares would only be affected to the extent of *consols*, even allowing the baneful system to continue. *Consols* have fluctuated within twelve months some 13 per cent., railways some 60—the beneficial results then, of such an arrangement as the “government assuming the railways” is very apparent.

I shall, in the course of this letter, endeavour to combat the various prejudices which might arise (as far as they occur to me), and will attach data whereby the arrangement will prove itself highly advantageous to the investor at the highest price, or the more fortunate investor during the average of the past six years.

Taking from the 1st August, 1843, as that date, the fluctuations and depreciation of railway stock to the 1st of January, 1848, may be attributed to *combined causes*. Firstly, the enormous number of railway bills passed in the sessions of 1845, 1846, and 1847, amounted to 576, granting the formation of 9,336 miles of railway, and involving an amount of two hundred and fifteen million in share capital and borrowing powers on British railways. This, together with competing lines and amalgamations of trunk with new lines, guaranteeing them a certain rate of dividend—have been the leading causes for the depression; and, added to this, the trunk or main lines have had to diminish their dividends. For instance, “London and North Western” have reduced their dividends from ten to seven per cent.—“Great Western” from 8 to 7 per cent.—“South Western” from 9 to 6 per cent.—“Midland” from 7 to 5 per cent.—“Newcastle and Berwick” 9 to 8 per cent.—and “York and North Midland” 10 to 8 per cent. Now, when these lines, for example, were quoted at the highest prices they ever attained, it may be presumed they were paying their dividend from actual earnings, and then most of them were untrammelled by amalgamations or guarantees of any kind. Thus we may trace the grounds of the re-action, which, to a certain period, only extended to the relative value the stock bore to dividend.

But, it is a strange anomaly that those railways whose accounts have been some time before a scrutinizing public, and have proved themselves capable of sustaining their present dividends (although an unparalleled commercial depression has existed for the past twelve months), appear to have been more seriously affected than the unfinished lines. But, if we prove that the mass of transactions have been merely gambling, then the time has arrived for parliamentary interference.

A glance at the *Gazette* for 1847-8 will exhibit a frightful list of merchants, bankers, and others, who have been forced, during the past two years, to relieve themselves from railway liabilities which have weighed upon them more severely in consequence of the bankers refusing to grant the slightest relief on such securities.

The causes of this depression I think have been traced. Would this have occurred had a measure of protection been extended to shareholders, whereby their property would have been secured from greater fluctuation than consols? Is there a banker in the United Kingdom who would have refused to advance the calls on new lines, they charging 5 per cent. for interest whilst money is worth 2 per cent., and such security protected from violent fluctuations, as would be the case by government assuming the railways? These questions are answered by one fact which has recently been reported, that the Bank of England, feeling confidence in *railway debentures*—which are only railway guarantees—have advanced money to some extent on these securities. During the panic, these securities could not be negotiated!

If strength can be imparted to our monetary system by a reform in the present custom of gambling—if such embarrassments as we have witnessed can be avoided by salutary laws being enforced, whereby inordinate speculations would be repressed, is it not a reflection that the legislature has not interfered before this? It is their duty to watch over the public interests: and if the outcry has been raised at the system of gambling permitted so many years, the question of its propriety or impropriety should have been set at rest long ere this.

Many of the railway acts granted in 1845 were for lines in embryo—lines thrown on the market by men of straw, as provisional committees, who availed themselves of the opportune moment of *rigging the market*, and giving their schemes a *bona fide* stand for a period, that they might profit by the mania which existed. This goes far to prove that even at this late period the claims that are put forth for such railways being completed (many not having even broken ground), should be left to the searching discrimination of a railway board, whose powers should permit them to select those, by priority absolutely required to develop a traffic which has been proved *unprofitable* to compensate for the cost of the line; and that no line should be commenced, unless it can be proved to yield at least 5 per cent. per annum dividend. The question of dividends may raise for the moment a few adversaries to my scheme; but the public at large are deeply



interested in the value of their railway stock *being fixed intrinsically, and to fluctuate only in the same ratio as government securities.* By the present system, London and North Western stock is not worth more than 5 per cent. to a purchaser for investment; but with a repetition of the panic which we have just emerged from, that stock was a 7 per cent. dividend. If a list could be struck of the number of original proprietors to this railway at its foundation, and now on the books of the company; compared to those registered as stockholders by transfer, I question much if the largest proportion is not found to be of the latter class. Then, even allowing that *ten per cent. dividend had, in the period of six years from which I take my data, been regularly paid,* the average price has been £200; consequently *the investment only produced 5 per cent., less income tax.* Now, a strong argument might have been raised against the project of lessening the dividend, where such had for seven years remained unaltered; but every railway in the kingdom has been forced to reduce the dividends, in consequence of their traffic being affected by the opening of new lines which have more or less opposed them. And this will continue to be the case until all the railways are in operation; and then we may find the trunk lines still more sensibly affected.

The appointment of a competent railway board by government would be a judicious step, whose powers should extend to a thorough investigation of the condition of each railway. Now, as unfortunately in times past, we have found government patronage extended to persons perfectly incompetent for the duties of office, I would, my lord, presume to suggest that mercantile men, who possess a thorough knowledge of accounts, should be the parties selected.

There are many men of known worth and integrity, who have been forced to "bend to the storm," who would be too glad to devote their hours to the duties of auditors and investigators; and if the system I humbly advocate were carried out, a greater measure of confidence on the *bona fide* statement of such a board would please the public, who are deeply interested in all that pertains to railways. The present direction of railways need not be interfered with;—nor do I think any hostility to my proposed scheme would arise in that quarter. All properly qualified directors are stock-holders; their property, consequently, would be enhanced in value; and as they, as directors, receive emolument for the duty, I question much if, so far from prejudicing their situation as directors, the very scheme will not sensibly relieve their labours, so far as "railway finance" is considered; and other duties of an

active nature will also devolve on the government directors who would receive salaries for their services.

There are many railway companies who possess an interest in tributary lines now in the course of construction, and which are under the controul of the London and North Western, South Western, Eastern Counties, Midland, York, Newcastle, and Berwick, Lancashire and Yorkshire, Edinburgh and Glasgow, Great Western, South Eastern, Brighton and Sheffield, Manchester and Lincoln lines. Taking the arrangements these railways have entered into with their shareholders as the basis for the completion of the tributary lines, by guarantees by the main lines, from 7 to 4 per cent., my project does not seriously affect them. The traffic of the main lines is first devoted to pay its guarantees; and if these dividends are reduced to  $4\frac{1}{2}$  and 5 per cent., the rise in the value of the share, by becoming a government security, is a compensation for the loss on dividend. I may also state that many of the tributary lines so guaranteed become, when "all paid up," the capitalized stock of the trunk lines. Embryo railway projections, which have not 50 per cent. of their capital paid up, and which are called independent lines, shall come under my third proposition. We have no right to take a moment of ease in the money market as the groundwork of hostility to this arrangement. Many of the railways in embryo were worthless in the month of October last, and shareholders would present you with their scrip if you would register, and thus release them from the liability of calls, and incur the responsibility for future demands; but my proposition is to average the value of such shares on the 1st of January, 1849, and government assume the controul, completion, and future working of these schemes.

In looking, therefore, to a comprehensive measure of protection, the question of dividend becomes a secondary consideration, compared to the frightful depreciation we have witnessed. No investor in any ten per cent *guaranteed railway* can purchase shares to leave more than 5 per cent. Thus, if government guarantees this,—who profits? Another system of fixing the amount of dividend might be adopted thus; taking ten per cent. dividend as the maximum guarantee, and reducing it to seven per cent., and all others in proportion.

*Proposed scale of reduction in railway dividends by government :*

		£ s. d.			per £100		
Reduce	10 per cent. to	£	s.	d.	per cent. is worth	£	s. d.
9	..	7	4	0	.....	242	13 4
8	..	6	8	0	.....	218	8 0
7	..	5	12	0	.....	194	2 8
6	..	4	16	0	.....	169	17 4
6	6	5	0	9	.....	126	8 0
5	..	4	0	0	.....	152	16 1
4	..	3	4	0	.....	121	6 8
3½	..	2	18	0	.....	97	1 4
3	..	2	8	0	.....	87	19 4
2½	..	2	0	0	.....	72	16 0
2	..	1	12	0	.....	60	13 4
						48	10 8

The railway board of inspectors shall report on the actual dividend which government might rely on the respective railways yielding, and thus fix the scale of guarantee as above. I now call attention to the

*Average price of railway shares from 1st of August, 1843, to 1st August, 1848.*

Year.	London and North Western.	Great Western.	South Western.	South Eastern.	Lancashire and Yorkshire.	Edinburgh and Glasgow.	Bristol and Exeter.	Midland.	York and North Midland.	Newcastle and Berwick.	Brighton.	Sheffield and Manchester.
1843	217	35½	66	26½	80½	50½	58½	68	72		34	78
1844	230½	138	87½	38½	116½	65	70	108½	123		49	82
1845	252	246	82	47	230	87	130	180	112	55	80	135
1846	210	165	75	40	135	73	110	140	97	42	63	110
1847	170	125	60	33	110	60	100	120	80	46	50	90
1848	114	92	41	24	94	37	67	94	62	30	28	60
	1193½	851	411½	208½	765½	372½	535½	710½	546	173	304	555
Av.	199	141½	68½	24½	127½	62	89½	118½	91	43½	50½	92½

I have now compressed into the limited space of a letter, a subject of paramount importance to the public. Its adoption will tend to protect the public charities and the widow and orphan, *whose little all* has been invested in railways to increase the means of their support ; for we know full well that a large amount of *trusts* are invested in railways. Our commerce would not be so subject to sudden shocks, induced by a depression in these securities, confidence would be more lasting,

and prosperity beam forth from that gloom and misery which has enveloped the kingdom since 1845.

I have the honour to remain,

MY LORD,

Your faithful servant,

ARTHUR W. HART.

16000000

17000000

18000000

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**ERRATUM.**

Page 16, for "Great Britain," read "England."

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NEWCASTLE: PRINTED BY E. ROSS, 46, PILGRIM STREET.



# RAILWAY COMPETITION.

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## A LETTER

TO

GEORGE CARR GLYN, Esq. M.P.

CHAIRMAN

OF THE

LONDON & NORTH WESTERN RAILWAY.

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LONDON :

EFFINGHAM WILSON, 11, ROYAL EXCHANGE.

1849.

*Price Sixpence.*



## L E T T E R.

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13th February, 1849.

SIR,

I have ventured to place your name at the head of this letter without your permission, because I know no one to whom it could with so much propriety be addressed.

Occupying one of the first places in the Railway community, you have ever used the influence derived from your position, your talents, and your character, to promote the cause which it is my present purpose to advocate. In common with all the more sagacious members of the railway body, you early foresaw and strove to avert the evils and hazards of competition, but your efforts were neutralized by events and passions too powerful to be controlled. In the strife engendered by cupidity and pride, the friends of peace were swept onwards by a torrent too powerful to be stemmed, and launched upon a stormy sea, where they were compelled to witness calamities which they could not then prevent, but which, had their advice been followed, would never have occurred. Fatal, however, as have been the consequences of this departure from the unaggressive policy which it was your avowed wish to pursue, they are not all irreparable. Much may yet be done to mitigate the disastrous effects of past



contention, and provide against future aberrations from the path of peace,—the only path by which railway enterprises can be conducted to permanent security and success.

One of the most effectual modes of preventing a recurrence of former errors and disasters, is the dissemination of sound opinions respecting the true sources of Railway prosperity; for it is to be feared that too many of those to whom the duty of shaping the destinies of Railways is confided, hold ideas on this subject at variance with the truth. Any attempt, therefore, however humble, to elucidate the means by which the welfare of Railway Companies is best promoted, deserves encouragement, and may do good. In this belief, and in the hope of assisting those who are striving to preserve the harmony which should subsist between the leaders of our Railway system, this letter is published; not, however, without some misgivings that in the execution of my self-imposed task, the will to accomplish my object may be more manifest than the power.

An exposition of the causes which led the principal Railway Companies to assume an attitude of hostility towards one another, seems to me a necessary introduction to the observations by which I hope to prove, that the true interests both of the public and of the Companies, require that the latter should remain at peace.

Every writer who has endeavored to discover the origin of the contests which the Proprietors of Railways have so much cause to lament, has found himself compelled to refer it primarily to the injudicious and inconsistent course pursued by Parliament; a fact which does not tend to raise our opinion of the legislative

machinery employed, to give to private enterprise the sanction of law. We are prone to pride ourselves on the admirable manner in which our system of polity answers the great ends of Government; but when we reflect on the proceedings of Parliament in reference to Railways, we may well doubt whether Lord John Russell's memorable declaration of finality was not premature.

Railways are, without question, among the noblest triumphs of human intelligence, and are the grandest contribution ever made by science and art to the agents for improving the moral and physical condition of the human race. Marvels are hourly performed by means of Railways, and by that kindred Wizard, the Electric Telegraph, which transcend in grandeur and sublimity the most gorgeous dreams of oriental imaginations. By the agency of these potent enchanters, we make the lightning our messenger, and compel the elements of fire and water to devote their fearful energies to our service, and to rush with us over valleys and through hills, with a speed surpassing the eagle's flight.

To England belongs the glory of these magnificent inventions, but to England also belongs the shame of being the only country in which the ruling power not only abstained from giving direct encouragement to their development, but even raised obstructions to their progress which would have damped the energy of any people less resolute.

The government of other states, whether Despotic or Republic, had sagacity enough to perceive the value of Railways, and either constructed them at the national expense, or evinced the utmost eagerness to stimulate private enterprise to undertake their forma-

tion. From the Legislature of England neither aid nor encouragement was required. The applicants simply asked permission to make the Railways at their own cost. How was the application met? By repeated denials; and when denials would not be taken, by every species of passive resistance and vexatious delay. Railway bills, after the points involved in them had been for weeks under investigation, and enormous costs had been incurred, were thrown out by both Houses of Parliament on the most frivolous pretences. An error of a figure; the size of a plan; a mis-statement regarding the height of a bridge, or the position of a field, was, in the opinion of our country gentlemen, a sufficient reason for refusing permission to the fathers of the railway system to confer on their country, at their own expense and risk, one of the greatest benefits ever bestowed by man on his fellows.

What can more clearly illustrate the great preponderance of the rural element in our constitution, than the fact, that the fastidious tastes and haughty exclusiveness of some lordly sybarite, the family pride of some anciently descended squire, a sentimental regard for aged trees, or the narrow views of some close borough, were allowed more weight in the scale of British legislation, than all the great interests of the nation put together. It is at the same time a striking proof of the indomitable energy of the British people; and of their clear perception of the true sources of power and wealth, that, in defiance of this legislative opposition, and in the face of difficulties of execution almost insuperable, they persevered in a novel experiment, requiring a number of years, and involving an outlay of millions, before any return could be obtained for the money spent.

The sagacious men who thus vindicated the characteristics of the Anglo-Saxon race, merited an ample reward for their boldness and patriotism. In some instances they obtained a reward, in others they did not, and in none were they permitted to enjoy it long. I shall not ask how far it was just, but how far it was expedient, thus to treat those high-hearted men who conducted to a successful issue the most formidable undertakings with which men in a private station ever grappled. It is the peculiar boast of our country, that its history is bright with the glory of those noble inventions—the votive offerings of genius at the shrine of industry—which tend to increase the power, and raise the social condition of a people. It is its still more peculiar boast that the magnificent works resulting from the practical application of these inventions; its canals, its railways, its docks, are the creation of the spirit of private enterprise, unaided by the State. Was it wise, then, to discourage a spirit which has given so many exalted proofs of energy and lofty purpose, and which has shown, how compatible is the pursuit of private objects with the promotion of the highest interests of the public.

It is not supposed that Parliament intended to damp the ardour of private enterprise, yet the course it pursued was too well calculated to produce such an effect. The want of foresight displayed in the obstructive policy it at first pursued, could only be equalled by the unwise facility of that it subsequently adopted. So indifferent was the legislature to the progress of the marvellous invention of Railways, when first announced, so little attention did it excite on the part of the Government, that no attempt was made to establish the new channels of

communication in accordance with such general principles as would ultimately give them the character of a national system. On the contrary, each Company was permitted to select the locality, to run its line in the direction, and to select the gauge it thought best. For this disgraceful dereliction of duty by our rulers, Lord Dalhousie, when President of the Board of Trade, endeavored to atone in a series of able and comprehensive reports, which, in his official capacity, he presented to the House of Lords. The decisions which his lordship came to on the various projects submitted for his consideration, displayed the judgment of a statesman, and the principles of a patriot. Swayed by motives which it is difficult to fathom, the two Houses with singular unanimity agreed to reverse these wise decisions, and to give unrestricted scope to competition.

Little regard was paid to the claims and interests of existing Railway Companies, still less to the interests of the unfortunate persons who were induced to embark in the new projects, for no better reason than that they had been sanctioned by Parliament.

The opportunity of confining the exceptional gauge within its original territory was also for ever thrown away. By an inconceivable want of statesman-like views and foresight no effort was made to connect the isolated railways, which then existed, by new links into one great and combined system, in the form in which they would be most subservient to the wants of the community, and to the great ends of domestic government, and national defence. Further, the sudden change from one extreme of determined rejection or dilatory acquiescence, to the opposite extreme of unlimited concession, gave a powerful stimulus to the spirit of speculation,

and turned nearly the whole nation into gamblers. The subtle poison of avarice thus engendered, diffused itself through every class. It infected alike the courtly and exclusive occupant of the halls of the great, and the homely inmate of the humble cottage. Duchesses were even known to soil their fingers with scrip, and old maids to enquire with trembling eagerness the price of stocks. Young ladies deserted the marriage list and the obituary for the share list, and startled their lovers with questions respecting the operations of bulls and bears. The man of fashion was seen more frequently at his broker's than at his club. The man of trade left his business to look after his shares; and in return, both his shares and his business left him. In short, "madness ruled the hour," and brought the country to the very verge of fiscal ruin.

The ostensible reasons for the change of policy which led to these results was the expediency of encouraging competition, in order to guard against the abuses of monopoly—on the St. John Long principle of creating a visible and dangerous disease to cure one which is hidden, and probably imaginary. So far as this policy of concession contemplated the encouragement of competition, it was for the moment entirely successful. Railways were projected in every possible and impossible direction, under rivers, over mountains, down precipices, and across arms of the sea. Two lines of communication with Scotland, one by the west coast, and the other by the east, were conceded. Three routes between the metropolis and York were not thought too many. Leeds and Liverpool were supposed to require an equal degree of accommodation.

One principal Company was permitted to construct a railway parallel to the trunk line of some other principal Company. The parties whose interests were thus assailed in their most vital part, retaliated and organized a counter-project to run through the territory of their opponent. It was thus those prolonged contests originated which have swallowed up so much treasure, and have so greatly diminished the value of railway property. The warfare was most violent in the districts in which the two gauges met, for Parliament, by sanctioning an exceptional gauge, had introduced an element of discord into the railway system, which will long continue to disturb its harmony. It was indeed in an evil hour for its own Proprietors, and for the whole railway body, that the Directors of the Great Western Railway, yielding to the arguments of their engineer, a young man, able, ardent, and fond of distinction, had resolved to deviate from the established principles of railway construction.

Without any intention of reviving the discussion of the exhausted question of the gauges, I may observe that, during the investigations which were instituted at the time the battle of the gauges was fiercest, it was demonstrated by arguments which have since been ratified by experience, that as commercial speculations, Railways constructed on the broad gauge are inferior to Railways constructed on the narrow gauge. That whatever can be safely done on any gauge with the present machinery and motive power, may be safely done on the narrow gauge; and that uniformity of gauge is essential to the development of all the resources of the railway system.

Indeed, the efforts of the promoters of the broad

gauge, to escape from the limits to which they had declared it was their original intention to confine themselves, is an implied admission that, as a commercial speculation, their experiment had failed.

The novelties of the construction which were so much vaunted, proved so expensive, and caused so large an outlay of capital, that they were induced to invade the territories of their neighbours in search of new sources of profit.

The clear judgment of Lord Dalhousie saw the danger of their design, and resolved to frustrate it; but availing themselves of the disposition evinced by Parliament to foster competition, and possessing an influence in both Houses so great as to be mysterious, they entered the arena of strife, and prosecuted their aggressive measures with all the energy and talent for which they are distinguished, and with a degree of success which they probably now lament.

Never did a legislative body commit a greater mistake than that by which the British Parliament converted this kingdom into a great Stock Exchange, and stimulated the various members of the railway system to engage in a death struggle in order, as it was alleged, to correct the poison of monopoly by the antidote of competition. The malign influence which this word monopoly has had on the destiny of Railways, is a remarkable illustration of the homely proverb, which represents the sad consequences to a dog of giving him a bad name. By a gross abuse of language, Railway Companies were described as monopolists in the invidious sense of that term. Every party and class, therefore, thought it their sacred duty to rail at them, to fleece them, and to treat them with every species of contumely and injustice. In-



vectives in Parliament, tirades in newspapers, clerical witticisms, even at the expense of bishops, were employed to swell the tide of public indignation. It was not too much to compel such grinding monopolists to perform the public service for nothing, to convey the poor for the next thing to it, and to carry the rich on their own terms. Such were the proposals which were coolly made, and as warmly maintained. How little reason there was in this outcry it will not be difficult to shew. Monopolies may be either legal or virtual. They may be exclusive privileges protected by law, or they may be the exclusive possession of certain sources of gain; the result of having rendered competition impossible, by the superior inducements offered to the public. It cannot for a moment be pretended, that Railways ever were legal monopolies. The law interfered with them not to grant privileges, but to impose restrictions. The Railway Acts all contained provisions, fixing maximum rates and tolls; so low were these tolls fixed that it had the effect of reducing the expense of travelling, as soon as the Railways opened, from two-thirds to three-fourths; while the journeys were performed in from one-third to one-fourth of the time taken by the old conveyances. Not content with fixing a maximum toll, the Legislature subsequently enacted that, at least, one train should be provided daily, for the poorer classes, and that the rate should be two-thirds less than the maximum. Further, they invested a Public Board with certain powers of supervision and control over Railways. Neither turnpike roads nor canals were shut up by law for their benefit. Noblemen were not forbidden to post, nor mercantile men to travel by coach, nor graziers to drive their cattle to market; neither were

carriers compelled to transfer their goods to the rail. All were allowed to take the course they thought best; or, if they deserted the old for the new mode of communication, it was because they saw their own advantage in the change. The result, indeed, was to create a virtual monopoly; for every class of the community were attracted to the new means of locomotion, by its superior economy, expedition, comfort, and safety. All the old modes of conveyance rapidly disappeared. There was not the shew of competition except on the part of Canal Companies; even they could only compete with any hope of success for the coarser and heavier articles of traffic. Railways thus became, by the force of circumstances, in a certain sense, monopolies. But were they monopolies to call forth fierce denunciations? Were they monopolies to be suppressed as nuisances? Were they monopolies which it was expedient that the Legislature should use its power to crush? No; still they were, to a certain extent, monopolies. There was therefore danger that the vices of irresponsible power, might be developed. There was danger that Railway Companies might become haughty lethargic corporations, pursuing private objects unmoved by complaints and remonstrances, and heedless of the public good.

If secure of adequate profits, and free from the dread of rivalry, where were the inducements to incur the labor and responsibility attendant on an attempt to extend the usefulness, and improve the arrangements of such gigantic undertakings? Hence it was the undeniable duty of Parliament, as the guardians of the national interests, to provide against so obvious a danger; it was its duty not only to guard against the growth of possible abuses, but to apply such

stimulants as would prevent Railway Companies from subsiding into a slothful indifference to improvement, and would induce them to adopt an experimental system of management, calculated to develop all the resources of the new means of locomotion, and bring it to the highest state of efficiency.

To accomplish this object, Parliament had apparently the choice of taking either of two courses. They might have guaranteed the Companies against rivalry, on condition of submitting to the necessary degree of legislative control, or they might have given free scope to competition. They took the latter course, with what success the sequel will show.

No one will dispute that competition is the law of human progress, the soul of civilization, the vivifying principle which causes the growth of all that is great or useful in the works of man. It may then seem strange that its efficacy as a corrective of the antagonistic principle of monopoly should, in reference to Railways, be denied. Its efficacy is not denied ; nay, its temporary success is certain. What is denied, is the practicability of its safe and permanent application. A state of competition is commonly one of great personal labor, of great mental activity, and of harassing suspense. It is therefore a state from which men are ever eager to escape, more especially, when success is hopeless, or even doubtful. Further, when there can be no more than two or three competitors, and when none of them can hope to drive the others out of the field, persistence in competition becomes madness, and combination becomes a necessity and a duty. Hence the truth of the aphorism, that when combination is possible, competition is impossible.

Hence, also, the origin of the late abortive attempt to unite the interests of three of the greatest Railway Companies in the kingdom.

But granting that the permanent application of the principle of competition to Railways were possible,—would it be safe? Competition, while it stimulates the higher powers of the mind, brings too often, some of its more sordid feelings into play. If it kindle the desire of excelling, it excites the passion of avarice, and makes men overlook the character of the means in their eagerness to attain their ends. Its application is, therefore, never safe, when the security of life is the primary object of the public, and commercial profits, the primary object of those who compete. When an article is in unlimited demand, price, not quality, is the inducement which the candidates for public patronage must offer. Hence Railway Companies can compete only by a reduction of charges. A reduction of charges will lead to a diminution of profits; diminution of profits to penurious management;—and penurious management to an increase of the dangers of railway travelling. It may seem a paradox, but it is nevertheless true, that the admitted safety of railway travelling is mainly owing to the imminent and appalling dangers with which it is surrounded. These dangers are so formidable, that every effort of human ingenuity and vigilance is employed to avert them. If the beautiful and comprehensive system of precautionary measures, now in operation on well managed lines, were to be impaired in efficiency;—if the unflagging vigilance of railway servants were to be relaxed, by the diminution of their number, and their consequent over-

exertion, the public would soon be awakened, by frightful disasters, to the perils of railway competition. That system, and that vigilance, can only be maintained at immense cost. If, therefore, from any cause, the revenue of Railway Companies should descend below the remunerative point, the maintenance of those essential safeguards of the railway passenger becomes an impossibility. Hence it is, that I think the Parliament, in preferring the principle of competition to that of legislative control, as the security against the possible abuse of their powers by Railway Companies, committed a grievous error of judgment.

There was probably none of the Railway Companies who would not at one time, have gladly purchased immunity from competition, by submitting to a degree of legislative control, which would have been adequate to the attainment of the purpose the Parliament had in view. The formation of a Railway Board, with absolute power to enforce its decrees, would not have been tolerated by any Company, and would not have been necessary for the public protection. But a Board might have been established, with power to recommend arrangements calculated to increase the convenience, and extend the accommodation of the public ; with power to suggest the adoption of experiments with the view of improving the machinery in use ; of increasing the speed, or of reducing the charges ; and with a power to compel the Companies to refer to arbitration any question respecting which they and the Board disagreed. In short, it might have been difficult, but it would by no means have been impossible, to have framed a law, which, while it did not encroach

too much on the just right of the Companies, would have protected the public, and insured the progressive improvement of the railway system.

The opportunity of establishing these salutary relations between the Railway Companies and the State having been unhappily lost—the Railways constituted under the sanction given by Parliament, to the principle of competition, are now either completed or rapidly approaching completion. The future policy of the Companies who are now or will soon be rivals for the same traffic, has consequently become a subject of grave consideration.

Every dictate of prudence or of interest counsels the cultivation of an amicable spirit between Companies so situated. Yet the experienced eye may discern specs in the Railway horizon. These specs are gradually expanding; and unless moderation, forbearance, and good faith, interpose to allay the rising storm, it may swell into a tempest which will shake the railway system to its foundation, and involve it in losses from which it will take years to recover, if they be ever entirely retrieved.

Were the course of Railway Companies to be guided by experience, there need be no apprehensions respecting their future Policy. They had ample warning from that stern monitor. The fierce and protracted struggle in which they have already been engaged, has had results which should speak trumpet-tongued against a renewal of the contest. By a singular fatality the conquerors in those gladiatorial exhibitions of which Parliament was the arena, the greatest corporations in the kingdom the combatants, and millions the stakes, have been the severest sufferers. This fact should of itself have a

sedative effect on those, if there be such, who desire to renew the warfare; and taken in connexion with the following summary of the fatal consequences of past contentions should make all connected with Railways shrink from the responsibility of adding to such an accumulation of evil.

In 1845 Railway shares of all kinds rose to a premium of from £100 to £150 per cent. In 1848 the same shares fell either to par or to a discount. The difference of value in the two years must have been at least £100,000,000. Railway Companies who in 1845 divided profits of 10, 9, and 8 per cent, divided in 1848 not more than 7, 6, and 5 per cent. In 1845, Railways, on which £84,400,000 had been expended, yielded a gross receipt of £6,200,000 or about 7 per cent on the capital. In 1848, in which £167,300,000 had been expended, yielded only a gross receipt of £10,000,000 or 6 per cent on the capital. In the period intervening between 1845 and 1848, upwards of £60,000,000 were sunk in the construction of new railways, not one of which will pay their working expenses, except by abstracting traffic from previously existing lines. Further, all the great Companies have come under engagements, either by giving guarantees to new lines, or by investing capital in them; which if the speculations turn out entire failures, will reduce their own profits, some by one half, and others to nothing.

Let those who would rekindle strife reflect on these facts ere they again rush into hostilities.

Let them reflect too on the incalculable amount of private losses sustained, and the irreparable sufferings and mental anguish endured by large numbers

in every class of society: by the aged on finding the provision made for their declining years gone; by widows while seeing the sole dependence of their orphans melt away; and by families forced to descend from a position of affluence and ease, to one of penury and toil.

It would be some consolation for those multiplied sufferings and losses, if it could be shown, that benefits had been conferred on the nation, which could in no other way have been obtained. Some agricultural districts, and a few inland towns, will it is true, have the advantage of railway communication a few years earlier than might otherwise have been the case. But sooner or later, the wants of those towns and districts would have been supplied by branches projecting from the old trunk lines, at one-tenth of the cost, and without destroying a single private fortune, or giving the least shock to the commercial fabric of the kingdom.

I have dwelt with the more emphasis on these disastrous effects of past contentions, in order to show the degree in which they strengthen the position which I took up at starting, that it is for the mutual benefit of the public, and the Railway Companies, that the latter should remain at peace.

I shall now proceed to describe the consequences which I believe will ensue, if the spirit of vehement animosity, which characterised the conflicts of the old and the new Companies in Parliament, should be permitted to decide the form which their future relations are to take. Should the genius of discord prevail in their counsels, and determine them to try the experiment of competition, the sole weapons they can use, are high speeds, and reduced



Companies, who possess the traffic, and of the new Companies who desire to share it. The former will probably regard its rival with feelings of jealousy, if not of animosity, and will be slow to descend from its vantage ground, or relinquish any part of a traffic which it considers as legitimately its own. It is well to remember, however, that the question is not one to be decided by feelings, however natural, but by reason. The new Railways are made, and their proprietors are not likely to let the rails rust, or the stock lie idle. If they cannot obtain a part of the traffic by peaceful means, they will strive to get it by hostile ones. Let the old Companies, therefore, display moderation in their resistance, and the new Companies, moderation in their demands. Let men of temper, judgment, and candour, be deputed to negotiate the settlement of the differences which may arise, and there are no obstacles to the establishment of amicable relations, which may not be overcome. One source of discord has been removed by the change which has been made in the mode of conducting the Goods' Traffic.\* Had the old system been continued, the carriers, impelled by their own interests, would have labored incessantly to disturb

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\* The new system has found a persevering and strenuous opponent in Mr. Whitehead.

If this gentleman's antecedents had not been known, one might be pardoned for supposing that he was an old carrier, who had been deprived of his business by the change he so much condemns. Those who contend for truth, always maintain a tone of moderation and candour, while the remarks of those who contend for victory, are usually tinged by the feelings, whatever they may be, which have urged them to rush into the contest.

It would not, I think, be difficult to expose the fallacies which run through Mr. Whitehead's last letter. There can be no more conclusive arguments than sound statistics, when fairly used, nor more delusive and sophistical ones, than statistics which have neither been verified nor fairly applied.

the harmony which should subsist in the railway community. The removal of this fertile source of disunion, is an additional pledge for the preservation of peace.

Any agreement between rival Companies, designed to avert the evils of competition, must be based on principles which will remove all chances of collision, and be likely to endure.

There are three modes in which arrangements, calculated to preserve peace, may be framed;

1. The Companies may agree that the traffic shall, in every case, be conveyed by the shortest route.

2. Rival Companies may adopt equal fares and rates, and start their trains at the same hour, each using its best exertions to get what share of the traffic it can.

3. The total receipts of the Traffic, for which two or more Companies are in a position to compete, may be divided among them on equitable principles, without reference to the Railway by which the traffic was actually conveyed.

To the first of these modes it will probably be objected, that if generally acted on it would have the effect of depriving some Companies, from their peculiar situation, of all their traffic. Such a principle is not therefore universally applicable, and it is highly expedient that whatever principle is adopted, should have this recommendation.

The second mode proposed, while it shuts the door to competition by reduction of charges, leaves

it open to competition by high velocities, and would therefore prove but a partial remedy for the evils which it is sought to cure.

The third mode is that which would most completely withdraw every inducement to compete, and afford the greatest facilities for working the traffic at the least expense.

In framing an agreement on this principle, the chief difficulty would be to determine the proportions in which the receipts were to be appropriated to each Company. An equal division would not in all cases be fair. Some one of the Companies may possess advantages in respect of distance, and the position of its stations, which would have enabled it in case of competition to have commanded a larger share of the traffic than the others could have obtained. It will be expected that those advantages will have due weight in determining the principles of division to be adopted. Should such differences arise, and the Companies find themselves unable to agree, they should refer the contested point to arbitration, a mode of settling the disputes of Railway Companies, which it is highly expedient more frequently to employ.

The ratio of division being once determined, it would be possible so to regulate the number of through trains started by each Company, that two trains should not run to the same points at the same time; and that each Company would convey so much of the traffic, in which they had a common interest, as would be nearly equivalent to the proportion of the receipts to which they were respectively entitled.

This system of mutual co-operation, would enable

the associated Companies to conduct the affairs of their Railways, as economically as if they were one undertaking. No more trains need be run than were required for the accommodation of the public, and by the extent of the traffic. The terminal establishment of each of the Companies might also be reduced. And the principle of centralization might even be carried to the length of having a common stock of engines and carriages maintained at the joint expense. They would thus solve the most knotty problem which is now taxing the ingenuity of the managers of the Railways. They would with the least outlay obtain the largest return for the capital expended.

In every district of the kingdom, the capital invested in Railways, has in the last three years been immensely increased.—As surely as water finds its level, so will the profits of the traffic of each of these districts be diffused over this increased capital ; and the chief purpose of these remarks is, to persuade Railway Companies to adopt the process of diffusion likely to be least injurious to the existing interests. The old Companies will naturally look back with regret, to the period when seven, eight, and ten per cent. were divided. It would be idle, however, to waste their energies in endeavors, by competition, to restore a state of things which is for ever gone ; or which at least, is gone until new sources of traffic are explored ; or the working expenses of railways greatly reduced. Their true policy, is to accommodate themselves to existing circumstances, and to strive to confine within the narrowest bounds, evils which they cannot hope altogether to prevent.

The light in which the public will regard the

system of united action just recommended is of some importance. I do not, indeed, recognize the right either of the public or the legislature to object to any lawful measures which Railway Companies may now adopt to retrieve their affairs. The Legislature deliberately elected the principle of competition for the protection of the nation against the assumed disposition of Railway Companies to abuse their powers. By this determination incalculable loss was inflicted on the whole body of Railway Proprietors. With what show of justice could either the Legislature or the public now interfere with the legitimate efforts of men who had been so cruelly treated, to preserve the remnants of their fortunes?

If the Legislature should feel jealous of such combinations as I have contemplated, let it continue in the course it has chosen. The nation may be stimulated into a frenzy of speculation; the cupidity of the multitude may be excited by encouraging hollow hopes based on erroneous calculations; a new generation of dupes may be induced to lavish their money on a new series of competing Lines, but let not the Legislature blow hot and cold. Let it not be one year all for competition, and the next, all for legislative control. Let it not one year adopt a policy which has nearly ruined the Railway body, and the next, interpose its power to prevent that body from taking measures to rescue the remains of their property from utter annihilation.

There is not, however, much to be apprehended on this score at present. Public opinion is gradually undergoing a revolution in regard to Railways. A

feeling is gaining ground that the Companies have been harshly used, and there is a growing disposition to view favorably any measures that may atone for the injury done. This is fortunate, for it is important that the Companies should carry the public along with them in whatever course they may take to regain their lost ground. It would aid the growth of this cordiality if the public could be convinced that they would not ultimately be gainers by the competition of Railway Companies. A temporary benefit might indeed be derived by the reduction of fares and rates, but it must be at the cost of greatly diminishing the safety of railway travelling; and with the certainty, that even the opportunity of making this saving at the expense of personal security, could only last until the Companies, having exhausted all their resources, were driven to combine. In judging of the course which it is most prudent for the nation to take in reference to Railways, it should be kept in view that economy is a consideration secondary to safety, and that safety and an exhausted treasury are incompatible. That, therefore, a peaceful union of rival Companies, on principles approved by the people, is the policy best calculated to promote the interests of the public, and to develop the advantages of the invention which so much increases the brightness of our national glory.

From what has been said in the former part of this letter, I think myself justified in laying down these positions:—

I. That it is impossible for rival Companies to conduct their affairs on the principle of permanent competition.

2. That competition can be maintained for a period of any duration only at great risk to the public, and at immense sacrifices by the Companies.

3. That competition, however protracted, must therefore end in combination.

4. That it is infinitely more for the interests, both of the Railway Companies and of the public, that combination should be adopted as a means of preventing a conflict, than as a means of ending it.

5. That it is consequently the paramount duty of all who have the power, to promote an union of the interests of rival Companies, on such principles as can give no just cause of umbrage to the nation, and as will by their equity, ensure the duration of any alliance which the Railway Companies may form.

It remains only to express a hope that the leading members of the Railway community may use their authority to suppress all attempts to disturb the harmony so essential to the welfare of the Railway system. Moderation, liberality, and perfect good faith, are indispensable to the maintenance of peaceful relations between Railway Companies. The greatest danger therefore against which it is necessary to guard, is the indiscreet zeal and inconsiderate ardour of men, who will grasp at a temporary advantage, either insensible to the consequences, or regardless of them. If in the establishments of Railway Companies there are men of this stamp, whom it is found impossible to restrain, they ought to be removed, and replaced by men of more enlightened views and calmer minds.

While penning the last sentences, and reflecting on the qualifications which the chief officer of a Railway should possess, my mind reverted involun-

tarily to the gentleman who lately resigned the office of Secretary to the London and North Western Company.

The gentleman to whom I allude took large and liberal views of the policy of Railway Companies, and was therefore ever desirous to obtain for his system of management the sanction of public opinion. He brought to the discussion of the differences which must ever arise between Railway Companies, a calm and unimpassioned mind, and always desired to effect a compromise of contending claims on principles of equity, without seeking to grasp a present advantage at the risk of a future rupture; and the engagements thus contracted were scrupulously fulfilled. His bearing in his intercourse both with the public and with his subordinates, was affable and courteous in the highest degree, and the civility for which the establishment is distinguished is chiefly owing to its having taken its tone from him.

There is no one who has the pleasure of knowing Mr. Creed, but must wish that he may long continue to enjoy, in the retirement to which he has withdrawn, the esteem and attachment of his numerous friends.

The position of those on whom rests the responsibility of managing the affairs of our great Railways is not an enviable one at this juncture; yet there are considerations which should aid in sustaining them under the weight of their laborious and anxious duties. No one who has had a prominent share in bringing the wondrous invention of Railways into operation, but must feel a secret satisfaction at being one of the instruments, selected by



Providence, to confer so great a blessing on the nations of the earth. When we survey the magnificent system of British Railways, and when turning to the Continent we see there also Lines radiating from the coast to its remotest parts, binding the nations in bonds of peace more firm and enduring than any the crooked arts of diplomacy ever framed, we are almost ready to repine at the inability of the human mind to penetrate the future. We burn with an ardent desire to take in at a glance, and in all the grandeur of perfect development, the changes which Railways will effect in the social condition of nations, in the political relations of states, and in the ideas and conduct of men; but, alas! the veil that mercifully conceals our own destiny from us, hides all things else from our view.

Yet when we reflect that England was once a circle of petty states, engaged in constant warfare, and that England is now a united people, actuated on great occasions as if by one soul; and further, that one of the chief agents in bringing about this change, has been its facilities of internal communication, we cannot doubt that Railways will effect changes equally great and beneficial among the nations of the world. When, as will in future be the case, the people of one country mingle habitually and in large numbers with the people of other countries, the inveterate prejudices and hereditary hatred which now set one nation against another, will gradually fade away. Those dark and fiery feelings will be replaced by others more genial and peaceful. War will thus be deprived of the chief fuel which has fed its desolating fires; and peace, gentle peace! will shed her soft lustre on the

annals which were wont to be lurid with the fierce glare of murderous strife. Science with expanded wings, will soar higher into the regions of space, and with a keener eye, pierce deeper into the mysteries of nature. Art will achieve triumphs which will throw all our most vaunted inventions into the shade. Finally, when through the agency of Railways, the feelings which tend to excite national passions cease to exist, and the physical condition of the humbler classes is improved, we may hope, that the standard of moral purity and mental culture of the masses will be raised, and that future generations will be distinguished for nobler ideas and higher aims than now prevail in the world.

I have the honor to be,

SIR,

Your obedient Servant,



# RAILWAYS—

## PAST, PRESENT, & PROSPECTIVE.

*Robert*  
*Montgomery*  
**R. M. MARTIN, Esq.**

AUTHOR OF

"THE TAXATION OF THE BRITISH EMPIRE,"  
*dc., dc.*

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"RAILWAYS ARE THE VERY GRANDEST ORGANIZATION OF LABOUR  
AND CAPITAL THAT THE WORLD HAS EVER SEEN."

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**Second Edition.**

[WITH ADDITIONS.]

LONDON:  
W. H. SMITH AND SON, 136, STRAND.

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MDCCCXLIX.

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# RAILWAYS—

## PAST, PRESENT, AND PROSPECTIVE.

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### IMPORTANCE OF THE RAILWAY INTERESTS.

AT this moment there is, perhaps, no subject of more vital importance to the moneyed and mercantile public, than the existing state and future prospects of what is termed the “ Railway interest ;” whether we estimate the vast sums of money vested in these great national undertakings, their effect on the internal trade of the United Kingdom, or their influence on its governmental policy and social condition.

In England, especially, their wide-spread influence is felt even in the most remote districts ; there are few families who have not some members anxiously watching every chance or change likely to affect the important subject on which their own welfare and the prosperity of the hearths and homes of thousands of their fellow-subjects materially depends ; but, beside this enormous mass of private interests, the public generally, and even that small portion of it who, like myself, have never held a share in, or been connected directly or indirectly with, any Railway, have

surely reason to feel a more than ordinary solicitude in the progress of an extraordinary system which affords such unexpected facilities for mercantile and personal transit.

Without entering into the question, whether the desire for improved powers of locomotion caused the rapid extension of Railways, or the contrary, certain it is that the traffic on them is still on the increase, and that the wise management of them, and consequently the safety, speed, and economy of Railway travelling, is a matter of grave moment to us all.

The system is, indeed, so new to our previous habits and experience, it has grown into magnitude with so much rapidity, and has been so differently viewed by adverse parties or rival interests, who feared they might experience a portion of that injury which all transitions inevitably produce, that I thought it might be useful to examine and condense the facts on record bearing on the main points of the subject; to trace briefly the system from its commencement; to investigate the proceedings and enactments of Parliament with regard to Railways; to state the money expended in those national undertakings; to inquire into the general and local taxation to which they have been subjected; to ascertain how far the extension of Railways is liable to the charge of having caused the recent financial and commercial embarrassment; and generally to review the position and prospects of those great undertakings, on which more than two hundred millions sterling have already been expended, and with whose well-doing the financial and commercial prosperity of the country is intimately connected.

#### RISE AND PROGRESS OF THE RAILWAY SYSTEM.

A cursory examination of the rise and progress of Railways may lead to a juster appreciation of the value of the rapid locomotion we now enjoy.

There are persons living who remember that the only way of reaching London from Horsham, in Sussex, and from different parts

of England, was by travelling on foot or on horseback. Cattle could not be sent at all to the metropolis on account of the state of the roads. Arthur Young, writing in 1770, seriously cautions all travellers to avoid certain *turnpike* roads—for a “thousand to one but they break their necks or their limbs by overthrows or breaking-downs.” A journey from Edinburgh to London occupied a week, and passengers from York to the metropolis were generally three days on the road. The stage-coach in which the late Lord Eldon first travelled from his native town, Newcastle-on-Tyne, to London, was three to four days on the road; and the motto on the coach, not inaptly, was “*Sat cito, si sat bene;*” which appears to have been the principle of the late Chancellor.

*Wooden* rails were used in the Newcastle collieries in the beginning of the 17th century; but a century and a half afterwards (1765) Railways had made little progress. In 1767 a few tons (five or six) of *iron* rails were made as an experiment at the Colebrook Dale Iron Company. In 1776 *cast iron plate* rails were laid on wooden sleepers at the colliery of the Duke of Norfolk near Sheffield. In 1800 stone props were substituted for wooden sleepers. In 1824 the *cast iron* gave place to *wrought iron* rails; but for nearly two centuries no other advantage was sought from the construction of those “rails” but the economising of animal labour for the conveyance of coals, iron, &c.

Long after the invention of the steam-engine, it was deemed impossible to make a wheel advance with a weight by reason of the smoothness of the rail; but in 1813 a locomotive engine was worked in the Wylam colliery by the natural law of the adhesion of the wheels to the rails: it was not until 1829 that the principle was finally established, for at this time the Directors of the “Liverpool and Manchester Railway” were undetermined as to the kind of motive power which they should adopt, and not until they had received the reports of eminent engineers who had visited the different Railways, did they resolve to employ “locomotives” in preference to fixed engines or horses. To that great man, the late George Stephenson, the nation is indebted for this



improvement on the former mode of transit; and to his genius, energy, and perseverance, England owes, in a great degree, the formation of the most useful works that have ever been constructed in any age or any country.

The sanction of Parliament was first given to Railways at the commencement of the present century; and the progress of legislative Railway enactments has since been as follows\* :—

Years.	Railway Acts.	Years.	Railway Acts.	Years.	Railway Acts.	Years.	Railway Acts.	Years.	Railway Acts.
1801	N° 1.	1814	N° 1.	1825	N° 5.	1834	N° 14.	1843	N° 21.
1802	„ 2.	1815	„ 1.	1826	„ 6.	1835	„ 18.	1844	„ 48.
1803	„ 1.	1816	„ 1.	1827	„ 6.	1836	„ 35.	1845	„ 120.
1804	„ 1.	1817	„ 1.	1828	„ 11.	1837	„ 14.	1846	„ 277.
1808	„ 1.	1818	„ 1.	1829	„ 9.	1838	„ 10.	1847	„ 296.
1809	„ 2.	1819	„ 1.	1830	„ 8.	1839	„ 16.	1848	„ 85.
1810	„ 1.	1821	„ 1.	1831	„ 9.	1840	„ 16.		„
1811	„ 2.	1823	„ 1.	1832	„ 8.	1841	„ 15.		„
1812	„ 2.	1824	„ 2.	1833	„ 11.	1842	„ 16.		„

Until the formation of the “Liverpool and Manchester” line in 1830, all these Railways were used for the conveyance of coal, iron, limestone, agricultural products, &c., and they were in many instances mere tramways.

The successful establishment of the “Liverpool and Manchester” Railway, with locomotive engines, for *personal* traffic settled the question as to the practicability of this mode of travelling, and great credit is due to the enterprising spirit of Lancashire capitalists for their perseverance against scientific doubts and opposition from powerful and interested parties. One eminent engineer said, “no man in his senses would attempt a Railroad over Chat Moss;” he calculated that if attempted it would cost £.227,000 to cross it (4 miles). The bold and comprehensive genius of George Stephenson, backed by the capital

\* Some of the later years are given on the authority of Mr. Bigg's useful *Abstract of the Special Acts, authorising the Construction of Railways*. Mr. Bigg only gives the *passenger* lines.

of our Lancashire merchants and manufacturers, surmounted the difficulty, and it cost even then, when engineering was less understood than now, only £40,000.

On the 31 miles of rail there were assents for 11 miles (land-owners 152); neuter 5, (land-owners 97); and dissents 15, (land-owners 86). The expenditure for this railway up to 31 December, 1835, was £1,195,156, *viz.* for roads and tunnels £885,463; warehouses and stations, £248,518; locomotive engines, coaches, and waggons, £61,175. The number of passengers then travelling by this, the only rail for their transit in the kingdom, was—

1832 N°. 356,945.	1834 N°. 436,637.
1833 „ 386,492.	1835 „ 473,847.

Now the passenger traffic in the United Kingdom numbers about *sixty millions a year*.

It would be unnecessary to detail further the progress of Railways; suffice it to say, that in 1837, the longest line then made in England (82½ miles), the “Grand Junction,” was opened from Birmingham to Newton on the Liverpool and Manchester line; and in 1838, the London and Birmingham, which was incorporated in 1834 (after being thrown out in the House of Lords in 1833), was opened. As an illustration of the expense, discouragements, and delays that were incurred by the first founders of our Railway system, it may be stated that the original estimate of the London and Birmingham line was £2,400,456; yet in December 1837, the expenditure had reached £3,981,828. One tunnel, that of Kilsby, estimated to cost £90,000, ultimately required nearly £350,000 to overcome the hidden and almost insurmountable difficulties with which the engineers had to contend; yet on went the proprietors in the face of all difficulties, in an almost untried speculation. Much of this outlay was caused by the opposition in Parliament, which drove projectors into more expensive lines of country, and into heavy engineering. Many tunnels were made at an enormous cost, for which there was really no necessity.

The successful establishment of the great lines between London and the North of England led, in 1835-6-7, to a "Railway mania;" numerous schemes were started, and the country was mapped out with projected lines. In 1837, however, the restrictions imposed by Parliament on the facility for obtaining Acts checked the speculative fever, caused an abandonment of many projects, and even prevented the further prosecution of lines already begun. Although more than 50 new lines, comprising 1600 miles, were sanctioned in 1835-6-7, only five new lines, comprising 92 miles, were sanctioned in 1838 and 1839.

No new line was sanctioned by Parliament in 1840; in 1841 only a branch passenger-line of  $5\frac{3}{4}$  miles to Hertford and Ware; and in 1842 but three new lines were authorised, none of them of considerable magnitude: 1843 produced but few Acts for original or branch lines; but in 1844 Parliament sanctioned 26 lines, branches, and extensions, extending over a distance of 797 miles, requiring a share capital of £.11,121,000, and with a power to borrow £.3,672,994.

The principle of competing lines was now, for the first time, acknowledged by Parliament by the sanction of *two* lines to Ashton; one by the "Manchester and Leeds Railway Company," and the other by the "Sheffield and Manchester Railway Company," although the distance was only  $6\frac{1}{2}$  miles.

In 1845 the want of any fixed principle in the Legislature increased the evil to so great a length that 225 Bills relating to Railways were introduced: of these 120 Acts were passed, and 105 either rejected, withdrawn, or postponed to next session. Of the 120 Acts passed, 107 related to the construction of new lines, and provided for making 2883 miles of new Railway, and required a creation of new share-capital to the amount of £.43,844,907.

In the Session of 1847-48 eighty-five Acts were passed, of which only two related to the formation of new companies. The increase of mileage occasioned by the eighty-five Acts was 330; increase of *capital*, £.10,414,866; of *loans*, £4,205,605 = £.14,620,471.

## PRESENT STATE OF RAILWAYS, AND CAPITAL EXPENDED.

It is not easy to define clearly the number of Railways now in operation. There are about 50 nominally distinct Companies in the United Kingdom. Mr. Bigg states that 889 Acts of Parliament were passed from 1826 to 1848, authorising capital to be raised to the amount of £.326,643,217,—viz., for England and Wales, £.255,720,619—miles, 8796; for Scotland, £.41,308,719—miles, 1872; for Ireland, £.28,613,879—miles, 1813;—total miles, 12,481. By the Railway Companies' returns it would appear that the sum authorised to be raised from 1826 to 1847 was £.336,580,210, of which £.126,463,591 has been paid on shares, and £.40,858,265 borrowed on debentures, &c. From a return made to an order of the House of Lords 14th December, 1847, No. 71, printed 20th March, 1848, the following summary is given:—

	1843.	1844.	1845.	1846.	1847.	Total in 4 years.
	£.	£.	£.	£.	£.	£.
Capital authorised to be raised by shares . . .		15,596,750	44,876,770	95,625,934	34,152,520	
Ditto by Loans .		4,857,947	14,622,882	36,087,272	10,060,619	
Total authorised		20,454,697	59,499,652	131,713,206	44,213,139	255,880,494
Capital actually paid on shares to these dates	43,468,641	47,810,160	63,399,912	94,171,020	126,149,476	186,938,241 Total paid capital and debt.
Debt incurred to these dates	22,062,151	24,541,407	25,048,385	32,006,751	40,788,765	
Length of lines open	Miles. 2,027	Miles. 2,296	Miles. 2,608	Miles. 3,033	Miles. 3,870	Miles.
Amount paid as interest on calls paid up to shareholders	£.	£.	£.	£.	£.	£.
		16,609	106,682	402,780	1,007,864	

These figures vary in some respects from a more recent, and probably more accurate, return moved for by Mr. Hastie, M.P., and printed by the House of Commons, 4th September, 1848. The Summary is as follows:—

	1844.	1845.	1846.	1847.	Total in Four Years.
Capital authorised to be raised by Shares ....	£. 13,149,750	£. 45,555,910	£. 95,463,930	£. 30,854,210	£. 185,023,800
Ditto by Loans .....	4,720,611	15,268,178	36,632,294	9,543,185	66,164,268
Total .....	17,870,361	60,824,088	132,096,224	40,397,395	251,188,068
Miles of Railway authorised .....	82½	2694	4593	1358	9463
Ditto, ditto, opened ....	741	887	116	17	1761

The same return contains also the following Summary (the year 1848 only includes, I believe, to 31st March):—

	Sums called up*.	Amount received on Calls.	Remaining due on Calls.	Sums borrowed which remain unpaid	Balance of Capital uncalled for.	Balance which the Railway Companies retain power to borrow.
	£.	£.	£.	£.	£.	£.
1843, & previous year	41,912,048	41,310,049	601,996	6,910,322	98,281,624	42,387,288
1844.....	5,206,039	5,166,923	39,115	2,213,947		
1845.....	18,071,917	17,632,701	439,216	2,391,291		
1846.....	27,594,367	26,384,253	1,210,114	6,215,205		
1847.....	36,887,803	32,467,947	4,419,856	11,144,177		
1848 to 31st March ..	13,526,204	8,948,495	4,577,708	4,969,243		
Total ....	143,198,378	131,910,368	11,288,008	33,844,188		

Mr. Herepath states that the total sum received for the construction of railways, amounted on 31st March, 1848, to £.165,754,556; adding Calls in Arrear £.11,288,008—amount uncalled for £.98,281,625—power to borrow £.42,387,289; showing a Total of £.317,711,478.

From the return to the House of Lords, it appears that at the close of the year 1847, £.166,938,241 had been actually expended on Railways; and in 1848 the Railway calls amounted to £33,246,484, showing (exclusively of debentures issued during the year) a total expenditure of £.200,184,725.

\* This is given from Herepath's 'Railway Journal.'

It is so palpably imprudent to attempt at present the construction of several authorised Railways, that a power should be given to suspend the operation of the Acts for ten years, and at the expiration of that time Parliament might decide which of the lines should be permitted to proceed with their works. The money authorised to be raised for Railways in Ireland alone was—1844. By capital £.1,300,000 By loan £.433,300

1845.	„	7,175,000	„	2,390,997
1846.	„	8,517,900	„	2,830,558

The number of miles now open in Ireland is 261, for which £.6,731,250 has been received on calls, and £.1,529,242 on loan.

There is now Railway communication by means of trunk lines between all the chief towns throughout the kingdom. Further expenditure should be confined to connecting the minor but still not unimportant places with the *nearest* trunk line. The evidence given before Parliament by men of the greatest practical experience, goes to prove, that except in the case of express passengers, to whom time solely is an object, an increase of distance is of but little importance compared with cheapness of transit. As before stated, the number of Railway passengers in the United Kingdom did not amount in 1834 to 500,000; in 1838 they increased to 6,312,000; and in 1842, 1846, 1847, and 1848, they stood thus in numbers and aggregate receipts:—

1842. (Year ending 30th June.)					
	1st Class.	2nd Class.	3rd Class.	Parl. and Mixed Class.	Total.
Nos.	2,926,980	7,611,966	5,352,501	2,582,057	=18,463,504
Passenger Receipts	.	.	.	.	£.2,731,687
For Goods	.	.	.	.	£.1,088,835
}					
1846.					
Nos.	6,160,354	16,931,065	14,559,515	3,946,922	2,193,126=43,790,983
Recp. £.	1,675,759	1,937,946	738,474	293,732	9,3164 £4,725,215
For Goods	.	.	.	.	£.2,741,200
}					
1847.					
Nos.	6,572,714	18,699,288	15,865,310	6,985,493	3,229,357=51,352,163
Recp. £.	1,675,759	2,048,080	737,452	539,976	146,733 £5,148,002
For Goods	.	.	.	.	£.3,362,883
}					
1848.					
Nos.	7,190,779	21,690,509	15,241,529	13,092,489	749,763=57,965,070
Recp. £.	1,792,533	2,352,152	661,038	902,851	11,807 £5,720,383
For Goods	.	.	.	.	£.4,213,169
}					



Years ending 30th June.	Total Receipts from Passenger Traffic.	Total Receipts from Goods and Mails.	Aggregate Receipts from Passengers and from Goods.	No. of Acts passed in each year.	Length of Miles authorised to be constructed.	Capital authorised to be raised by Shares and by Loans for Railway Purposes.	Amount actually raised.		Total Amount raised and employed for Railway Purposes.	TAXATION OF RAILWAYS.			Total Amount levied.
							On Shares.	By Loans.		Duty paid to Government.	Property Tax, &c.	Poor Rates, &c.	
	£.	£.	£.			£.	£.	£.	£.	£.	£.	£.	£.
1843	3,110,257	1,424,992	4,535,189	21	Prior to Dec. 31 2276	82,848,081	43,468,641	22,062,151	65,530,792				
1844	3,439,294	1,635,380	5,074,674	48	821	20,454,698	13,149,750	4720	6,890,775				
1845	3,976,341	2,233,373	6,209,714	120	2694	59,479,485	15,622,891	506,978	16,129,809				
1846	4,725,215	2,840,353	7,565,569	277	4593	128,918,207	30,556,627	6,958,866	37,514,993				
1847	5,148,002	3,362,863	8,510,866	296	1353	44,878,739	32,176,973	8,851,514	41,025,487				
1848	5,720,382	4,213,169	9,933,552	85	330	14,620,471							
Total.					12,003	351,200,681	126,463,591	40,868,265	167,321,856				

This is a remarkable table, which would have been made more complete, but there are no statistics to enable me to trace the system consecutively farther back than 1843. Since then the capital actually invested in Railways has advanced from *sixty-five* millions to *one hundred and sixty-seven* millions sterling. In five years one hundred millions have been spent. The Passenger traffic has increased from 23,000,000 to 58,000,000.



The exhibit of the traffic and receipts of the metropolitan lines for the year ending June 1848, is as follows:—

	No. of Miles open.	Passengers. No.	Passenger Receipts. £.	Goods and Mails. £.	Total. £.
London and North-Western.....	465	6,468,180	1,245,500	1,072,839=	2,318,340
Great Western .....	280	3,167,140	683,490	319,187=	1,002,678
London and South-Western .....	193	2,943,082	328,531	126,875=	455,407
Eastern Counties .....	213	2,711,176	363,202	259,506=	622,709
South-Eastern, including Greenwich	142	4,355,756	346,451	101,516=	447,968
Brighton and South-Coast .....	158	2,707,285	346,143	80,368=	426,512
Blackwall .....	3½	3,118,982	48,880	2,452	51,333

Some of the other lines show the annexed results for the year 1847-48:—

	No. of Miles open.	Passengers. No.	Passenger Receipts. £.	Goods and Mails. £.	Total. £.
Midland .....	283	4,178,279	448,724	399,065=	847,789
York and North-Midland .....	227	1,444,525	185,812	114,333=	300,145
York, Newcastle, and Berwick ..	229	3,226,086	240,525	320,255=	560,780
Lancashire and Yorkshire .....	164	3,782,159	228,702	268,921=	497,624
East Lancashire .....	23	1,069,663	40,102	17,852=	57,955
Manchester, Sheffield, & Lincolnshire	60	1,349,426	57,434	64,017=	121,452
Edinburgh and Glasgow .....	47	1,066,301	110,667	73,559=	184,227
Edinburgh and Northern .....	48	1,026,372	34,713	10,093=	44,806
North British .....	81	1,163,476	69,570	48,993=	118,564
Glasgow, Paisley, and Greenock ..	15	945,105	42,864	22,385=	65,249
Glasgow, Paisley, Kilmarnock, & Ayr	68	955,157	62,988	59,720=	122,709
Dublin and Kingston .....	7	2,239,769	49,154	1,086=	50,240

Passenger Railway opened in the last four years:—

	To Oct. 1845	to Oct. 1846	to Oct. 1847	to Oct. 1848.
Miles .....	2200	2640	3500	4400

A comparison (in round numbers) between the official years 1842-3 and 1847-8 indicates the progress of Railway traffic:—

	1842-3.	1847-8.
Length of Rail open, about . . .	2000 miles	4400 miles.
Total number of passengers . . .	22,000,000	58,000,000
Gross receipts, about . . .	£.4,000,000	£.10,000,000
Average receipts per mile . . .	£.2000	£.2500

There can be little doubt that at the end of the next five years a far greater comparative improvement will be manifest than even the *disastrous* year 1847-8 exhibits over the *prosperous* year 1842-3. About 6000 miles of Rail will then be open for traffic, and assuming, as may fairly be done, the average receipts at £.3000 per mile, the annual gross income will be equal to £.18,000,000, a revenue which will make Railway Companies the most powerful corporate vested interest in the kingdom.

An excellent "*clearing system*" is now in operation on the Narrow Gauge Railways (uniformity of gauge throughout the kingdom being necessary to unity of action, simplicity of movement and economy), which owes its origin to the foresight and practical mind of Mr. Morison the present able manager. The establishment is under the supervision of Mr. Glyn, Mr. Hudson, and other Railway Directors.

Statistics of the "Railway Clearing House" for four years :—

	1845.	1846.	1847.	1848.
Passengers booked through .	517,888	642,021	675,867	695,152
Miles travelled „ .	75,783,149	94,560,247	99,288,259	102,065,923
Carriages booked „ .	59,765	68,791	72,166	75,102
Trucks for private				
carriages „ .	5,813	5,753	5,926	6,014
Horse-boxes „ .	7,573	9,478	10,341	10,574
Post-offices „ .	2,607			
Goods waggons (not coal, &c.)	180,606	243,785	256,785	443,604
No. of Railway Companies in				
the Clearing House . . .	16	22	26	41

" The main principles of the system thus widely diffused are, *first*, that passengers shall be booked through at all principal (now to all) stations, and conveyed to their destination without change of carriage; that horses and cattle shall likewise be sent through without change of conveyance; and that goods shall, in the same way, be carried through without being either shifted or reassembled: *secondly*, that the companies respectively shall pay a fixed rate per mile for such carriages and waggons, not their own property, as they may use; and a further sum per day by way of fine or demurrage for detention, if kept beyond a prescribed

length of time: and, *lastly*, that no direct settlement shall take place between the companies in respect of any traffic, the accounts of which have not passed through the Railway Clearing House.”—(*See a useful pamphlet published by Smith and Ebbs, of Tower-hill.*)

The number of persons employed on Railways in the United Kingdom on the 1st of May, 1847, was, on *constructed* lines. 47,218, including secretaries and managers 124, engineers 90, superintendents 399, store-keepers 91, accountants and cashiers 100, draftsmen 100, clerks 3432, foremen 823, engine-drivers and assistant ditto 2969, conductors 1163, and artificers 10,000. The number of miles open was 3305, and of stations 1040.

On lines *in course of construction* the number at the same period on 6455 miles, was 256,509, of whom 235 were secretaries, 34 treasurers, 549 engineers, 2382 superintendents, 1437 draftsmen and clerks, and 240,301 artificers and labourers.

The careful protection of life on Railways is remarkable. The number of accidents which occurred in the conveyance of 52,000,000 *passengers* in the year 1847, was exceedingly small: 52 passengers were killed, and of these 22 jumped off the trains while in motion, or, in a state of drunkenness or insanity, wilfully incurred their own destruction. The loss of life and maiming by coaches on one-tenth the number of passengers was far greater than on all our Railways.

## ADVANTAGES OF RAILWAYS, MERCANTILE AND AGRICULTURAL.

The advantages of Railways to the internal commerce of the kingdom are incalculable. The time occupied for the transit of goods between Manchester and Liverpool, before the establishment of a Railway was 36 hours; but they were sometimes a month on the road, and the cost was 15*s.* a ton; now they are conveyed with certainty in two hours for 7*s.* a ton. Between Manchester and London the charge was 70*s.* to 80*s.* a ton, and they were several days on the road; now they are conveyed in a few hours for half the amount. The canals have been obliged to reduce their fares; in some cases they have been lowered from 33*s.* to 4*s.* Goods are now conveyed from Manchester through Liverpool or London to America in less time and at less cost than they would formerly have been conveyed from Manchester to Liverpool.

The charge for goods by waggon was, until the establishment of Railroads, as much as 1*s.* a ton per mile, at an ordinary speed of 2 to 2½ miles per hour, and by canals from 6*d.* to 1*s.* per ton at a less speed, and delayed during winter for weeks. Now the "London and North Western Railway" carry bale goods at 2*d.* a ton at a speed of 20 miles an hour. In fuel the advantages have been considerable; the price has been greatly reduced to the poor in inland districts, and is not higher in winter, when most wanted, than in summer; rail trucks are not stopped by frosts like canal boats. The farmers have benefited by the cheap conveyance of manures, of limestone, chalk, &c., and by the carriage of their live stock, grain, &c., to good though distant market-towns.

The traffic for *one week* in September 1848, on the *Eastern Counties Railway*, was—beasts 529; calves 73; sheep 5598; pigs 865; grain and malt 17,761 sacks; flour 6578 sacks; meat 197 tons; poultry 37 tons; fish 332 tons; fruit and vegetables 643 tons; beer 229 tons; wine and spirits 73 tons; milk 19,608 quarts; bread 59 cwts.

Mr. Smith, of Deanston, estimates the saving in the convey-

ance of imports and exports of a farm of 200 acres, on a six-shift course of 15 miles, by common road £.142, by Railroad £.40, showing a saving of more than £.100 a year on the mere cost of carriage. The rental of such a farm at £.400 would be increased in value to £.500 by a Railroad.

In many places land that was of little value, or not cultivable for want of draining tiles, or lime, or manure, was by the establishment of a Railway brought into profitable use, and the area for the production of food in the three kingdoms has thus been largely increased. By the conveyance of live stock on rail, instead of driving them on the roads, a saving is effected on pigs, sheep, and cattle of 2 to 10 per cent., independent of the more healthy state of the meat.

There has been a great saving to merchants in the *security* as well as in the rapidity of transmission of their goods. The report of a commission which sat 15 or 16 years ago to inquire into the loss of merchandise entrusted to carriers, to canals, &c., disclosed a system of plunder of the most extensive nature; there were regular depôts for plundering and disposing of the property along the traffic lines. In wines and spirits the abstraction was very great, and the deficit was made good with *aqua pura*. All this is now remedied; the losses and delays are comparatively few, considering the variety and amount of the traffic; and traders with small capital can order in from time to time, according to their wants, stocks of goods, sure of their delivery almost by return of post; thus facilitating and increasing commercial transactions without necessitating a corresponding augmentation of capital.

It is estimated that the distance traversed by each passenger averages annually 14 miles; and taking the passenger-traffic for a year at 56 millions, this would suppose that every man, woman, and child in the kingdom makes two journeys in the year, an average which no past coach-traffic can parallel. The Railways have not destroyed coach-traffic: it is well known that as large, if not a larger, number of horses are now employed than before the formation of Railways.

The following (incomplete) return is the best I have been able to prepare of the—

*Net produce of Duty from Post Horses, Stage Coaches, and  
Railroad Carriages, Year ending 6th January.*

	Post Horses.	Stage Carriage.	Railroad Carriage.
	£.	£.	£.
1833			639
1834			5,876
1835	228,480	480,753	6,852
1836	228,400	489,656	8,693
1837	231,040	503,742	10,296
1838	222,073	482,194	16,892
1839	237,456	454,567	39,570
1840	224,376	424,476	72,716
1841	212,636	325,593	112,427
1842	193,940	300,792	159,779
1843	} No later Returns published.		158,367
1844			
1845			
1846			
1847			
1848			

Then the improvements that have taken place in country towns through which the Railways pass,—in buildings, roads, bridges, lighting,—are manifest to the most ordinary observer. The advantages derived in postal communication are almost incalculable. The money-orders sent through the Post-office in three months of 1839, amounted to £90,000, but in three months of 1848 it amounted to £3,500,000.

Private individuals have from their own resources constructed in the United Kingdom, within the past ten years, works of greater magnitude in reference to utility than have ever been

made in any country in the world. They have truly levelled the hills, raised the valleys, and made the crooked ways straight. Mountains have been tunnelled, as the Box tunnel on the Great Western, and to the extent of three miles, as under the "back-bone" of England, between Yorkshire and Lancashire, or under the basaltic Snowdon range, where, in the Bangor tunnel, every foot for 900 yards had to be blasted with gunpowder. Arms of the sea have been crossed, as in the Dublin and Kingstown line, or bridged with iron tubes, as at Conway, or near Bangor, over the Menai Strait.

The tubes at Conway, on the Chester and Holyhead line, measure each 412 feet long, weighing each 1300 tons, and having a span of 400 feet, at a height of 16 feet above the water. But the "Britannia Bridge" over the Menai Strait, which I this day (22 Dec., 1848,) examined, is the greatest work of the kind ever undertaken. The bridge is formed by the construction of three massive columns of solid masonry. The centre tower has an elevation of 220 feet. The columns are entirely composed of red sandstone, faced with a hard limestone; on these columns will be placed four iron tubes, each 472 feet long, 14 feet broad, 30 feet high over the centre tower, and gradually diminishing towards either end to 23 feet 6 inches. The tubes are made of wrought-iron plates, closely rivetted, with a double chamber or flooring and double roofing; intervening spaces or chambers about three feet in the floor and roof. The weight of each tube is:—

Wrought iron .....	1500 tons.
Cast iron .....	200 „
Chains .....	100 „
Total .....	<hr/> 1800 „

which is 300 tons more than the "Great Britain," including hull, rigging, engines, boilers, &c. These tubes will be placed with their ends resting on apertures in the towers, at an elevation of 103 feet above high water, on a span of 460 feet. Thus, as a tube is 472 feet long, it will have six feet at either end for its

support. The Railway is laid on the floor of the tube, and the carriages will pass as they now do through the Conway tubes, direct from the ordinary railroad. The tubes will be floated on iron pontoons by the rising of the tide from whence they are now being constructed (close to the towers), and will be raised to their elevated position by hydraulic power ; and when on a level with the spaces fitted for their reception in the towers, detached iron parts of a tube will be run out a few feet from each tower, fitted and grooved into the ponderous mass.

Mr. Stephenson and his able assistant, Mr. Edwin Clarke, deserve the highest credit for this stupendous work.

The plan, which is quite original, is said to have been suggested from the fact of a large steam-vessel being left high and dry, resting with a few feet of its forefoot and heel on rocks, with its heavy machinery in the centre, yet without being what sailors call "hogged," or broken-backed. The plan has succeeded at the Conway, and as the principle is the same at the Britannia Bridge, there is no doubt of success, if the tubes can be raised. (Mr. Clarke is preparing for publication a scientific description of this great and novel work.) But for the proceedings of the Legislature the span might have been considerably reduced, or the bridge formed of cast-iron arches, like the Southwark Bridge over the Thames. But Parliament would not permit an arch, lest a span of 460 feet might at either end be reduced and lowered a few feet, although there would have been then more room than will ever be required for vessels of any burthen navigating the Straits. The result of this refusal is, that the bridge which would scarcely have cost a quarter of a million sterling, is now increased to about *half a million sterling*, and this too on a line of the greatest *political* importance ; for by its formation the distance between London and Dublin will be reduced to *twelve* hours, thus removing one of the staple arguments for the "Repeal of the Union." The sea-voyage between Holyhead and Kingstown was made by one of the Company's packets this month (December 1848),



in 3 hours and 20 minutes; and the distance between the two capitals is now traversed with ease in 13 to 14 hours. When the tube bridge is finished, about June next, the time will be under 12 hours, and it is probable the great passenger traffic between England and Ireland will pass along this line.

The harbour of Holyhead is being enlarged and made accessible at all times for every class of vessel, and an attempt is being made to lay down a telegraphic line across the Irish channel (about 60 miles). If this be accomplished, intelligence will be conveyed in a few minutes from Dublin to London.

With four or five exceptions, I have visited every county, city, and large town in England, Wales, Scotland, and Ireland; and I have traversed the greater part of the continent of Europe. The impression produced on my mind, previous to the discovery of Railways, was, that England, generally speaking, was a century in advance of the different nations of Europe (excepting Holland and Belgium), in all the elements of civilization and freedom. But those nations were gaining ground rapidly, and lessening the distance between them and their great competitor. The introduction of railways has, however, enabled England to regain her advanced position by the wonderful spring given to internal commerce, and the extraordinary impulse which the *mind* of the nation has received in a few short years. In every direction we see progressive improvement; in the comforts and appearance of the people, and far greater consumption of the necessaries and conveniences of life; in the substitution of mechanical power for mere human or animal labour; in the peaceful, orderly, self-respecting demeanour of the poorest classes; in the multiplication of small dwellings; in the great attention paid by the Sovereign and her royal Consort, and by Government, the Legislature, and the higher classes, to the improvement, cleansing, and sanitary state of the densely populated cities; in the superior architectural taste displayed, and especially manifested in the admirably constructed Railway buildings and stations—such as those at Derby, Chester, Crewe, &c.; and in

the diminution of crime, the preservation of property, and the obedience to the laws.

In these and other points, England still maintains her superiority over every other country ; and it can scarcely be denied that Railways have contributed in no slight degree to promote and to secure the above-mentioned benefits.

The Select Committee on Railways of the House of Commons, in their Report of 25th August, 1846, dwell "*on the immense importance to the community of a judicious system of Railways,*" and state that, "*it is hardly possible to exaggerate the importance of a Railway, not only to the great cities which are connected by it, but to the districts through which it runs. New branches of industry are everywhere called into existence by the facility and cheapness of communication afforded by Railways, and land previously of little or no value is at once made productive, by cheap access to materials by which the soil may be improved, and to markets for disposing of its produce.*" Mr. Smith, of Deanston, stated to the Committee that, upon those lines which have been in existence for some years, over which he has had occasion to travel, a very great agricultural improvement has taken place. Mr. Millar stated, before the same Committee, that manufactories of sulphuric acid, extensively used for agricultural purposes, have been established in suitable situations by the sides of Railways in several districts of Scotland, and that manures are conveyed on them at charges lower than the mere tolls on turnpike roads.

It is, therefore, a mistake to suppose that Railways have been merely beneficial to manufacturers and merchants, and to the large commercial towns. Their value is equally great to agriculturists, who in fact are manufacturers and merchants as regards the growth and sale of food, and to them cheapness and rapidity of conveyance is of primary importance. It is, however, a most unwise policy to treat agriculture and manufactures as *distinct* interests ; on the contrary, the well-being of each is of the highest importance to the other. The more food that the farmer can raise, and the cheaper he can sell it, the better for the manufacturer of cotton, wool, iron, &c., who in his turn

benefits the agriculturist, by preparing in abundance at the lowest price all the requisites for personal and domestic use. Railways have materially tended to bring these two great sections of the community to a sense of their mutual dependence on each other—to a truer view of the reciprocal advantages of their respective occupations—and to a harmonious, friendly understanding on private as well as on public and national principles.

The opening of the ports of the United Kingdom to the free importation of foreign produce, whether food or manufactures, may have been somewhat too sudden. For my own part I thought the safer policy was to admit, for five years, all productions from our colonies as free of duties or restrictions as if no ocean rolled between them and England, and I have devoted many years to the inculcation of a policy which would tend to consolidate our vast empire, and prepare us for a further extension of the system to foreign countries. But the failure of our harvest, the mysterious blight of the potato crop, and the rapid augmentation of population at the rate of one thousand a-day, were cogent and imperative reasons for the Legislature dispensing with a preparatory period of five years' free colonial imports, and of opening at once our markets for food from all parts of the world. The adoption of this then indispensable measure necessitated the extension of the principle to manufactures for the sake of the agriculturist. It is hoped that the farmers of England, with fair play, notwithstanding the comparative high rent of land, heavy taxation, and superior wages, will soon be enabled, by their skill, industry, and persevering energy, to compete with the producers of food in any part of the world. Fortunately for them, the extension of Railways at the period of this momentous transition has aided in a wonderful manner in mitigating, if not altogether alleviating, the results which all transitions even from evil to good produce. Labour, which temporarily, under a panic at the prospects of "free-trade," might have been redundant and thrown on the poor-rates, found full and lucrative remunerative employment on Railways; manures and draining materials were conveyed cheaply to every part of the kingdom; and it is not an

over-estimate to state that in this respect, and in the cheap and rapid conveyance of his produce to the best markets, the farmer derived an advantage equal to 10 per cent on his invested capital. By means of Railways cheapness of production has led to cheapness of price ; and now, or if not now very soon, England will, in all that concerns the necessities and comforts of life, be positively and relatively a cheaper country than any other in the world, and can, therefore, have no reason to fear commercial competition with foreign nations.

#### RAILWAYS NOT MONOPOLIES, AND NO AID GIVEN BY THE STATE.

Railways have been spoken of as if they were *not private* property ; as if they belonged to the public, or as if they had received from the state a monopoly of all transit for goods and passengers. This is unjust ; the state or the public, in its collective sense, have never contributed one shilling, directly or indirectly, towards the making or working of the Railroads ; on the contrary, they have been taxed by the State, and by the counties and parishes through which they pass in every possible way. The amount of Government duty paid in 1833, was £.639, and for the year ending 5th July, 1846, for England and Wales alone, it was £.154,885 (*Parliamentary Paper* 655, of 18th August, 1846).

It is not possible to state how much is paid *by* Railways. About £.200,000 a-year as duty on first and second class passengers ; about £.350,000 a-year income-tax and stamps ; and probably not less than £.400,000 a-year as poor-rates, &c. The proprietors of Railway property are, therefore, taxed about one million sterling annually.

The accounts of the London and North Western Railway show that the Rates and Taxes paid for the year ending

June 30, 1848, were £.58,642			
Duty on Passengers, year ending June 1848	...		52,844
Property and Income Tax, do.	...		61,746
Stamp Duty, about	...	...	10,000
Total			£.182,732

Contributed by *one Company* in a single year towards the revenue of the State.

It might be supposed, from the manner in which "*Railway monopoly*" has been decried, that the Government had shut up the "*Queen's highways*," forbidden all coach or horse or steam carriage traffic on those highways, closed all canals, or stopped all river barges or coasters; if such had been the case, then indeed Railways would have received a monopoly. But they have been subjected to all possible opposition, and, notwithstanding their costly construction and expensive working, they have, by fair competition, by superior accommodation, greater safety, and lower charges, drawn to themselves the largest part of the traffic of the kingdom; but this is not monopoly.

In Belgium, Prussia, Austria, and France, where the State has *aided* in the construction of Railways, compulsory tariffs have been enforced by their respective Governments; but in England, where no aid has been given by the State, there is no right to demand from Railways the conveyance of the Post-office mails *free* of all charge (as has been suggested by the Select Committee of the House of Commons); neither ought it to demand the conveyance of troops at unremunerative charges. The State has given *nothing whatever* to Railways; it taxes them to the utmost possible amount; it has subjected them to every possible rivalry; increased in every way the expenditure of their construction; and, excepting for mere purposes of police, there ought to be as little interference as possible, and the smallest abstraction of capital from the proprietors. Every nation in Europe and in America has, through its respective Governments, encouraged the formation of Railways; in England alone obstructions have been raised, expenses have been created, and annoyances have been multiplied without aim, without principle, and without advantage.

What in reality has the State or Parliament granted to the Railways? They have permitted what every nation in Europe and America gladly sanctions, *i.e.* they have given a defined limit to

individual responsibility ; that is, if a man contributes £.100 or a £.1000 to the formation of a most important and useful public work, he knows the *extent of his liability*. To call this a favour is incorrect ; it is what the State, or the Legislature, or the Crown ought to do for every description of useful public undertaking. Parliament, it is true, empowers the makers of a Railroad to pass through certain properties, but it gives the most ample compensation ; and experience has shown that the construction of a Railway through any estate confers a material and permanent benefit on the property.

Numerous instances could be quoted where the amount of compensation demanded by the owners of land, and paid by the Railway, has exceeded the cost of the *entire property* purchased only a few years before ; which property, on again changing hands immediately after the alleged injury, was sold at a still higher rate consequent upon the Railway having been made through it.

The *Compensation Law* is also a serious grievance : two persons may be killed in the same second or third class carriage ; the relatives of the one may claim and receive £.10,000, because of the income of the deceased ; the relatives of the other may not be able to show the deceased had any income. It would be a fairer course to make Railway Companies pay according to the fares paid by the various classes of passengers. In this and other instances of " Railway law," amendments are required.

#### CANAL COMPETITION PREVENTED BY PARLIAMENT.

Canals have successfully claimed an exemption from competition, even when their rates of profit were enormous. In 1825 a Birmingham canal was yielding cent. per cent. The Shareholders of the Old Quay Canal Company at Manchester for half a century received as dividends, every two years, a sum equal to the original outlay. The £.70 share sold at one time for £.1250. The Duke of Bridgewater's Canal yielded for more than twenty years a net income of £.100,000 per acre. In 1833 the following annual rates of dividend were paid by six canals : Coventry 32 ; Oxford 34 ; Stafford and

Worcester 34; Trent and Mersey 37; Ere Wash .47; Loughborough 134 per cent. per annum. The last-named canal, although its charges have been reduced from 2s. 6d. to 4d., still pays 74 per cent. The share lists of the present day show canal dividends of £.20, £.25, £.28, £.32, and £.34 per cent. per annum.

The *Quarterly Review*, No. 167, published this day (30th December, 1848) in a curious and interesting article on the details and working of the *London and North Western Railway*, when advertising to the enormous mercantile traffic on this line, says, "it appears from returns lying before us, that during the six months ending 26th of August last, there entered and departed from the Camden Station above 73,732 Railway waggon-loads of goods. Now, in the annals of political economy there can scarcely exist a more striking exemplification of the extraordinary extent to which the latent resources of a great country may be developed by lowering the tolls of its goods traffic, than the fact that notwithstanding the enormous amount thus conveyed along the London and North Western rails—the quantity carried along the Grand Junction Canal, which meanders alongside its powerful antagonist, instead of having been drained as might have been expected to Zero, has from the opening of the Railway in 1836 up to the present period actually increased as follows:—

Average amount of goods annually moved on the	Tons.
Grand Junction Canal, during the three years prior to	
the opening of the London and Birmingham Railway	
in 1836,	tons..... 756,894
Average amount of ditto, annually moved during	
the twelve years subsequent to 1836,	tons..... 1,039,333
Amount moved in 1837,	tons ..... 1,163,466

The foregoing statements show that Canals, previous to the establishment of Railways, having almost a monopoly of the conveyance of heavy goods, charged so unreasonable a price as to exclude much traffic; they illustrate an observation elsewhere made, that it is difficult to fix a limit to the amount of traffic for both Canals and Railways which facility and economy may

produce; and they prove that Canals have not been so materially deteriorated by Railways as has been supposed, the extent of traffic on them being actually greater than formerly, and their profits still high, especially as to the return received by those who have invested in Railways.

Notwithstanding their profits, Parliament has, however, granted compensating tolls to Canals when subjected to competition, but denied them to Railways.

Is it to be wondered at that the projectors of the Railway system, and those proprietors who embarked their money in the experiment, should, judging from the conduct of Parliament in reference to canals, have hoped for *some protection* from the Legislature? On the faith of such expected protection the original shareholder risked his capital in entire reliance on the good faith and discretion of Parliament. The shares of the principal lines of Railway, paying from 9 to 12 per cent. per annum, rose to £.200 and £.250 per share of £.100, at which rate large sums were laid out with a view to *permanent investment*. Parliament denied to Railways what it conceded to Canals, and by the encouragement of wasteful expenditure on duplicate lines, reduced the value of the original undertakings to little more than half the above, thereby causing an amount of ruin and misery on which it is too painful to dwell.

#### DEFECTIVE, VACILLATING, AND UNJUST LEGISLATION.

It is much to be regretted that Parliament did not at the outset lay down some fixed principle of legislation with regard to Railways; at one time competition was prevented, at another it was encouraged, and up to the present moment there is no definite system of policy.

Whatever evil may have arisen from attempting to construct, in the space of three or four years, works that ought to have been spread over ten or fifteen years, has been owing to the absence of any regulating system in the legislature.

It has been justly remarked that from the very beginning



Railways have been treated as if they were nuisances, and every impediment has been thrown in their way.

In 1830 Parliament refused even a hearing to the parties from Liverpool who desired to make a Railway to Birmingham and London, because out of 200 parishes *the name of a constable-wick had been omitted from the notice*. An omission as to the *height* of a bridge was deemed a sufficient cause for throwing out a Bill, no matter what expense had been incurred. One hundred witnesses have been kept waiting in town for three weeks, at an expense of £.1000 a-day, while Parliamentary Committees were passing through the most unmeaning forms, or trifling in a manner worse than childish. The mistake of a No. 68 for a 69 in marking a field on a plan has been reported as a breach of the standing orders. A field, stated to be in parish A, was found to be partly in township B,—reported as a breach of the standing orders. An error in the height of a Railway over an abandoned watercourse was fatal to the Bill. A Bill, on which £.100,000 had been spent, was rejected without the least inquiry into its merits, because there were some omissions in half a million figures, and other trifling errata. Another Bill of great importance was rejected because a barn, not worth £.5, had not been described on a separate enlarged plan.

The Great Western line from London to Bristol was debated for 57 days in the Commons, and the Lords threw out the Bill without a hearing. Next year the Bill only passed the Lords by a majority of 12, and a clause was introduced prohibiting any station being formed at Slough—the nearest point to Windsor at which the Railway was allowed to pass. Now, in 1848, there are two lines made to Windsor: one by the Great Western, and the other by the South-Western, right through the “Home Park.”

*Four schemes for lines* were projected from London to Brighton in 1836: Parliament *then* would only allow one. The Parliamentary contest lasted *two* Sessions, 47 petitions were presented, the Committee sat for 14 weeks, and cost for a con-

siderable time £.1000 *per diem*! The total expenditure of the contending parties is said to have been £.300,000; to which, in 1837, was added the nominal sum of £.180,000; the shares were issued with £.5, as paid on each share.

The proceedings on the Brighton line, when competition was prevented by Parliament, naturally induced the proprietors of existing Railways to believe that having expended vast sums of money in the construction of national works they would receive protection from the highest tribunal in the country, and be enabled to receive a fair return for their outlay. But, in consequence of the allegation made against what was erroneously termed "Railway monopoly," Parliament encouraged competition; and the results have been alike disastrous to the public and to the proprietors of existing lines.

During the mania of 1845-6, many schemes were concocted solely with a view to be "bought off" by the established lines, whose Directors were, in various instances, in self-defence obliged to purchase up lines that had no existence but on paper; or they considered themselves forced to apply for Bills, and make Railways which would not otherwise have been undertaken for several years.

There has not been the slightest Legislative consistency. In 1845 the Irish Great Western Railway passed the Commons, but was rejected by the Lords; in 1846 the Bill passed the Lords, but was rejected by the Commons. Many similar instances occurred. In 1845 Parliament decided there should be only *one* line from Carlisle to Glasgow; in 1846 the Legislature decreed there should be *two* lines. In 1844, the "South-Eastern" endeavoured to obtain a direct line to Hastings: the Commons considered it a competing line with the Brighton and Hastings, which they approved and passed, and rejected the former; but in 1846 the "South-Eastern" applied again, and obtained a second line to Hastings!

Harwich wanted a Railway: in 1844 two plans were proposed; each destroyed the other in Committee. In 1845 four schemes

were proposed—all destroyed one another on the standing orders. In 1846, two plans were proposed; one succeeded in the Commons, but it was beaten in the Lords\*.

The expenses incurred on several lines have been enormous. The Eastern Counties Railway (51 miles) cost in Parliamentary expenses £.45,190, engineering and other preliminary expenses £.48,650, total £.93,840, or more than £.1800 per mile. The Parliamentary expenses of the London and Birmingham are stated at £.650 per mile; and the Great Western at £.1000 per mile. The Eastern Counties paid for land £.809,590, or about £.12,000 per mile, which exceeds the whole cost per mile on most of the German lines and on several of the Belgian lines. The London and Birmingham and the Great Western paid each £.6300 per mile for lands. On the Holyhead line, land which had never let for more than 10s. an acre, was sold for £.1500 an acre.

It appears by the report of a meeting of Shareholders of the "Liverpool, Manchester, and Newcastle Junction Railway," held at the London Tavern, on the 15th of November, 1848†, to dissolve the Association, that "the Company had already spent £.100,000 in law expenses."

Other Railways present similar instances of lavish expenditure. Up to 1841 the Parliamentary expenses and law-charges of the "Great Western Railway" were at least £.100,000. In some cases from £.50,000 to £.100,000 were spent before a rood of land was bought.

No wonder that one of the Members of the present Government said he did not believe that "in the whole world there had ever been such a waste of time and money as had taken place during the last two years (1845-1846) on Railway Committees." While one of the most eminent Counsel, who was rebuked for citing a case as a precedent which had been decided in a Com-

\* For other illustrations, see Mr. Shaen's excellent Review of Railway Legislation at home and abroad.

† See *Times* of 16th November, 1848.

mittee sitting in the next room, declared that he would as soon toss up for a decision as go into a Committee of the House of Commons.

Most of the lines brought forward in 1843-4 were—more or less—*competing lines* ; and not only was the principle sanctioned by Parliament, but, on the recommendation of a Select Committee of the House of Commons, an Act was passed (9th August, 1844), which authorised a reduction of the amount of deposit-money fixed by the Act of 1837 from  $\frac{1}{10}$  to  $\frac{1}{20}$ . The Committee recommended that new lines to *compete with existing* lines be referred for decision to a Select Committee, who should declare they had no personal or local interest in the Bill. These and other proceedings of the Legislature are among the chief causes of the difficulties, embarrassments, and confusion that now beset the Railway interests.

The Railway Parliamentary Committee of the 25th of August, 1846, record, in the following manner, a condemnation of the erroneous system pursued by the Legislature :—" The allowing as a matter of course the projectors of a Railway, on giving the prescribed notices, to *drag existing Companies, or owners of property on the proposed line, before a Committee of the House of Commons, is an evil, the magnitude of which can hardly be over-rated. Many of the schemes lately brought forward were, on the face of them, quite unworthy of being entertained ; some were started for gambling purposes, and not a few with the object of compelling existing Companies to come to terms, in order to avoid a troublesome and expensive contest. Mr. Peto mentions one instance within his own knowledge, where the line was utterly impracticable, and the Bill never went beyond the Standing Orders Committee of the House of Commons ; the solicitors' account, which did not include the expenses of engineers and various other outlays, amounted to eighty-two thousand pounds !*"

The Committee quote the evidence of one of the highest authorities on this subject :—" *Mr. Robert Stephenson thinks the fact of the preliminary steps in Railway schemes being subject to no control is the root of all the mischief now existing in the*

*Railway world*; and is of opinion that no project for the construction of a new Railway should be allowed to be brought forward till it has been taken into consideration by a Government Board."

Rightly did the House of Commons report, in 1844, that "it is almost impossible to hope that from the separate and unconnected proceedings of bodies whose existence commences and terminates with the single occasion of each particular Railway Bill, there should issue any distinct system of sound general rules;" and that "while even in opposed Bills there is no certainty that the conflict of parties will bring out the points most essential to the public good," in unopposed Bills the Committees have no means to check the proceedings. It is due to the Earl of Dalhousie to state that, amidst the conflict of opposing interests and great vacillation, he stood firm and consistent. The Reports of the Railway Department of the Board of Trade, while that department was presided over by his Lordship, were received with universal respect; and it would have been well for Railway proprietors and for the country generally, had Parliament acted in accordance with the comprehensive views of his Lordship, whose able successors at the Railway Department of the Board of Trade, the Earl of Clarendon, Mr. Strutt, and Mr. Labouchere, have had much difficulty and complexity to contend with. The Earl of Dalhousie, who paid probably more undivided and disinterested attention to Railways than any other person, felt that these great interests were too powerful to be left uncontrolled, and that the question lay between unlimited competition and a general supervision by Government. After mature reflection, Lord Dalhousie arrived at the conclusion that competition, although promising some advantages to the public, would, ultimately, as indeed it has done, prove detrimental.

The Commissioners of Railways, in their Report for 1847, state truly that "the principle of competition is not fully applicable to such undertakings; there have been occasionally severe contests between competing companies, and the public have for a time enjoyed the benefit of the consequent low fares; but these

contests have usually ended either in an amalgamation between the two companies, or in some other arrangement between the contending parties, which has put an end to all the advantage derived by the public from the competition" (pp. 50-51).

Competition in Railways by the reduction of fares below remunerative rates can produce no beneficial result ; both parties must in the long run be sufferers, and the public, though for a time carried cheaply, must ultimately pay a price for their conveyance which will compensate for the past and remunerate for the future. Competition in the sale of commodities or in minor matters is very different when applied in principle to great lines of Railway, which, from their fixed and immoveable nature and from their expense both in making and working, can never be long worked without a fair profit. A carriage and horses on a turnpike road, or a steam boat, if found unprofitable where employed, may be removed to another locality ; not so a locomotive engine and railroad carriage.

Every attempt, therefore, by rival lines to lessen fares below a profitable return must end in amalgamation, or in such an arrangement as will enable each to receive a fair remuneration on the capital invested : in fact, as aptly said by the younger Stephenson, "*where combination is possible, competition is impossible.*"

Since the foregoing was in type my attention has been called to the following admirable exposition of the effects of competition, as applied to the Railways of this kingdom. The article is from the *Morning Chronicle*, of 17th November, 1848, at which time the question of amalgamation contemplated by three of the great metropolitan lines was before the public. The measure being no longer in contemplation, it is unnecessary to discuss the subject ; it may however be remarked, that although such an amalgamation with its numerous objections is no longer sought, yet it is in the power of the respective Companies by *co-operation* and mutual forbearance and good-will to obtain all the practicable benefits desired from amalgamation :—

*November 17, 1848.*

“ No man, who does not carry his devotion to free trade to the pitch of fanaticism, will presume to deny that competition has its evils as well as its advantages. The energy which it stimulates in the cause of improvement often “overleaps itself,” and the public becomes in the end the sufferer, from sacrifices too rashly ventured in its cause. To be served cheaply is the interest of the community ; but that service alone will be found cheap in the long run which is remunerative to the party who renders it. The excess of competition is found to be not more ruinous to the one than it is in the end costly to the other.

“ The experiment of unlimited competition in Railways may now be said to have had a fair trial, and is capable of being estimated by its fruits. It has produced, without doubt, those multiplied facilities and conveniences of locomotion which form the most striking feature of the present century. It has contributed largely to the sum of our physical comforts, and will eventually add immensely to the development of our trade and the productiveness of our industry. On the other hand, it has led to the waste, and worse than waste, of millions of our money ; it has ministered to enormous jobbing, venality, and extortion ; it has ruined the characters and fortunes of thousands ; it is even now harassing the minds of great numbers with the most painful apprehensions as to the security of their property, and it is at the same time threatening the community at large with a serious abridgment of those facilities which they have hitherto enjoyed ; or with the imposition of a heavier tax, than they will be at all contented to pay, upon their pleasures or their business.

“ The reduction of dividends, the panic in the Share Market, the contraction of Railway accommodation upon some lines, and the return to a higher scale of fares upon others, are the natural consequences of that insane contention for power and profit which the Legislature, under a supposed but most mistaken zeal for the

interest of the public, has abetted, and in some cases almost forced upon the rival companies within the last few years.

“ A single instance will illustrate the pernicious effects of this policy more forcibly than any general observations that we can offer. Three years ago, the district between Birmingham and Wolverhampton possessed a double communication for its traffic, which was without doubt extremely large, by means of the Birmingham Canal and the Grand Junction Railway, each connecting the two towns. Additional Railway accommodation was, however, supposed to be desirable, and two Companies presented their rival plans to a Committee of the House of Commons for selection—neither party, however, for a moment pretending that *both* were necessary. A long, obstinate, and, of course, very expensive contest, terminated in a result which neither of them could have anticipated or desired, viz., the sanction of the two lines. Both Railways are now in the course of formation, traversing a highly valuable and thickly peopled district in parallel lines (at some points nearly touching each other), and each intended to terminate in separate stations in the centres of the two towns. At least four millions of money will thus be unprofitably sunk, in order that *three* lines of railway and one canal may afford a redundant accommodation to a tract some fourteen miles in length—Wolverhampton, moreover, being (in addition) supplied with an embryo Railway from London and the South, diverging from the Great Western line at Oxford. It is with instances such as these before our eyes (and many equally glaring might be adduced), in which the Legislature has sanctioned and even stimulated, a rivalry suicidal to the parties, costly to the public, and useless even to the locality in which it is to be carried out, that we are prepared to regard, with no unfavourable prepossession, any measure which may afford a guarantee against the recurrence of similar extravagances for the future. Monopoly has an ill sound: but, unless it can be proved to be incapable of regulation, we must prefer even monopoly to competition run mad. An undue profit to the Shareholders in an exclusive concern is a less evil, both on



public and private grounds, than a struggle in which many parties are competitors, and all ruined in the contest. There is a fair hope that concessions to the public may be gained or wrested from a successful undertaking, but those which are cutting each others throats by their contentions, are not in a predicament to be liberal of their own accord, nor can any force of law compel them to be so.

“The great companies which have spent most and suffered most, in this destructive war of competition, are at length proposing to bind themselves by the most effectual securities against the temptation or the danger of mutual aggression by an integral union. Lest they should ever forget that their true interests are identical, they are now seeking to merge them by incorporation. The remedy is a certain, if it be not a dangerous one. The vast property which will form, upon terms hereafter to be adjusted, the common stock of the united Companies, will acquire, when all apprehensions of collision have been for ever set at rest, a stability which, as long as bodies so powerful to injure each other remain in disunion, will never belong to it. The holders of this property must form a large part, but at the same time they are very far from being the whole, of the community. Before the union is ratified by the Legislature, the rights of the independent portion of the public are entitled to, and will doubtless receive, a full and deliberate consideration. The only question is, whether those rights are capable of being secured by Legislation, and of being protected by the authority of a constant supervision from the encroachment of a too powerful corporation. If they are, we can entertain little doubt that the strict guardianship of law will be found a firmer security for the interests of the community than that principle of competition which, after a full trial of its efficacy, has proved so uncertain in its action and so ruinously mischievous in its excess. For our own part, we can see no difficulty in the adaptation of efficient legal securities against abuse to the case in question. Parliament has already adopted the principle by the compulsory regulation of fares, by

prescribing the conditions of accommodation for the poorer class of passengers, and by other restrictive provisions which have long been in force, and have not hitherto, as far as our knowledge extends, been evaded in practice. At all events, one distinction between the two systems is too manifest to be lost sight of. A Government *can* compel obedience to its decrees, can enact new ones if they are evaded, or impose additional obligations whenever they may be found requisite. But those principles of action which depend on competition, it is utterly beyond the power of a Government to maintain permanently effective without the co-operation of the parties immediately concerned. The Legislature, it is true, may forbid legal incorporation, but it cannot prevent a combined action and a mutual understanding, if the interest of the rival bodies manifestly prescribe the adoption of that policy. It may stimulate for a time, as Parliament has already done in the case of the Railways, a spirit of reciprocal aggression, but it can hold the respective parties in an attitude of antagonism for only so long a time as may suffice to convince them that they have been the dupes of a short-sighted jealousy, and that their wounds may be healed, and their future interests cemented, by the simple expedient of a voluntary combination."

Every competing line or branch line to draw traffic from a rival line which Parliament sanctioned was a breach of contract, as directly implied by the previous conduct of the Legislature as if a stipulation had been made. No person would have subscribed his capital for the construction of great trunk lines if he supposed that in a few short years, when some benefit was beginning to be reaped from risk and outlay, Parliament would authorise the formation of another line which would abstract half his income.

If the Legislature deemed that the accommodation for the public was insufficient—that the fares were too high—that a greater number of trains were required, or that too great or too little speed was used, it possessed and exercised the power to make the necessary alterations or amendments; but to assist in establishing new parallel lines—not merely by direct sanction, but

also by the removal of onerous monetary restrictions to which the existing lines had been subjected—was a *breach of faith* which it is to be hoped will not again be witnessed in England.

This Railway competition involved thousands in beggary, and made almost every one a speculator. Men and women, high and low, rich and poor, entered the destructive road of which the gates were so widely opened by the Legislature, in the expectation that all could suddenly become rich ; the result to many was, that the rich were impoverished, and persons without a shilling rose on their ruin. Shopkeepers augmented their expenditure by hundreds, brokers and share speculators by thousands ; 332 *new* schemes were brought before the public down to the 30th September, 1845, involving capital to the enormous sum of £.270,950,000, of which £.23,057,492 would have to be deposited with the Accountant-General *before* Parliament would receive application for the Acts. In addition to these 332 projects, there were 137 other schemes in an incipient state, and their number was daily increasing\*. The “*Times*” journal, greatly to its credit, was efficiently instrumental in exposing this delusion and fraud, which it is to be regretted the conductors of that powerful expositor of public opinion did not before endeavour to check.

On 17th November, 1845, the “*Times*” published a statement which effectually startled the most selfish or blind actor in the “mania.” It appeared from that statement that the capital *then* invested in *completed* Railways was £.70,680,877, of which there had been expended, or there was in course of expenditure, £.67,359,325. This was surely enough, considering the past astonishingly rapid rise of the Railway interests. But the newly-projected lines before the public were now numbered at 620, which would require a capital of £.563,203,000 ; and there were also 643 Companies mentioned which had not registered their prospectuses, and of which the capital could not be estimated.

Many of these schemes were not prosecuted, owing to their

\* During the height of the Railway mania our printer—Mr. Brettell—issued to the various Companies employing him upwards of four million scrip in one week !

being unable to complete their surveys in time; but between 500 and 600 Bills were brought before Parliament; and, according to a Parliamentary Return, it appears that of the Railway capital *subscribed* in 1846 the large amount of £.121,255,374 was subscribed in sums of £.2000 *and upwards*. Many of the parties who so subscribed their names had not a shilling. It is unnecessary to pursue this exposition further; enough has been said to show the folly of all parties, but especially to mark the injustice of the Legislature in causing this aggregate of injury and suffering. The Railway interest, which is second to no other in national importance, is now experiencing the bitter results of the policy of 1845-6-7, and is depreciated in its shares and debentures *below their intrinsic value*, a state from which it can be retrieved only by a rigid but judicious system of economy, *a cessation from competition*, and by a prudent mode of management being adopted generally, without reference to the past expenditure or arrangements.

It may not be an uninteresting speculation to inquire what would have been the effect, had Government in the first instance, taken upon itself the construction and conduct of these gigantic undertakings? Certain it is, that numerous errors might have been avoided; the main lines of the country would have been laid out with reference to the general welfare rather than to the convenience of particular localities. The sums wasted in parliamentary contests, and in duplicate lines, would have been avoided, and there would have been uniformity of construction and management.

But, on the other hand, Railways, instead of being managed by Boards of Directors interested in their own property, and watchful of their interests, would be superintended by official authorities not so cognizant of the matters under their management, nor having the same interest for the improvement of the property, and to a great extent beyond the wholesome control of public opinion; fettered also by regulations, which, though well adapted, with reference to the general system, might, and probably would, operate very prejudicially in particular instances.

Under a free constitutional Government like ours, it is a general axiom, that the less either the executive Ministers of the Crown or the Legislature interfere with the internal affairs of the kingdom, except in matters of police and the enactment of laws, the better for the community.

To place the great thoroughfares of the nation under the supreme direction of the executive Government, would be nearly as bad as leaving the supply of water, food, and light to the authorities. The nation would become helpless, its individual and combinative action would rapidly diminish, and people, instead of relying on their industry and intelligence, would look to everything being done by Government.

On the whole, therefore, the evils which we have to deplore are not unmixed with countervailing advantages. Full scope has been given to the extraordinary talents and energies of those able men, to whom this country owes the present wonderful inland communications surpassing in efficiency and convenience those of any other nation; while it must not be forgotten, that it would have been a dangerous policy to have placed the control of such a vast interest and such an extensive patronage in the hands of any executive government.

#### RAILWAYS NOT THE CAUSE OF COMMERCIAL FAILURES.

That our recent almost unexampled commercial distress has not been solely caused by the large investment of money in the construction of Railways must be evident from the facts that there is an abundance of money applicable to mercantile enterprise, which can be had on negotiable paper at a rate of 3 per cent.; that the unemployed capital in the coffers of the Bank of England, and in those of the private and Joint Stock Banks, is estimated at £50,000,000; that the public funds are at 89; and that the depreciated price of Railway securities during the past year has prevented a divergence of the surplus national income (estimated at £50,000,000 per annum) towards Railway speculations.

The commercial failures of 1847-8 had not their origin in Railway speculation. During the "crisis," up to February 1848, there were in London 85 failures; in Liverpool 54; in Manchester 33; in Glasgow 32; in other parts of England 30; in Scotland 3; and in Ireland 8. The number of foreign failures amounted to 89.

The first and principal failures were in the corn trade, in which the speculations exceeded those in any other branch of business. Prices were run up to an exorbitant height in the face of increasing importations.

The quantity of wheat imported for 21 weeks of 1846 and of 1847 were—

## 1846.

Quarters..... 2,021,622; average cost 55s. per quarter.

Average cost £5,560,000.

## 1847.

Quarters..... 2,321,487; average cost 74s. per quarter.

Cost..... £8,590,000.

There were imported in the years—

	1844.	1845.	1846.	1847.
Grain in qrs. ..	2,747,951	2,162,644	3,814,666	9,437,034
Flour & meal, cwts.	984,701	953,258	3,356,812	8,673,302
Animal food „	144,626	133,324	264,389	461,460
Cattle, number	8,007	34,426	140,572	216,456

Under such a state of circumstances, with supplies of corn pouring into England from all parts of Europe and America, and with a rapid diminution of price, it is not surprising that failures in the corn trade became general. Thus, on August 6th, 1847, Douglas and Son failed for £.250,000; August 10th, Leslie, Alexander, & Co. for £.573,502; on the 11th, Coventry & Shepherd £.200,000; King & Melvil £.200,000; 13th, Giles & Son £.152,824; 21st, W. R. Robinson & Co. £.94,362; 27th, W. & J. Woodley £.99,509; September 4th, T. Booker & Sons £. ; 10th, Usborne & Co. £.59,457; Hastie & Hutchi-

son £.50,451. All these were in London. *In Liverpool*, Lyon & Fynney £.100,000; J. & F. O'Neal £.60,000; and other houses who are styled generally as merchants or provision dealers. *In Glasgow*, D. & A. Denny £.300,000, and others. *In Belfast*, A. Dickson & Co. for £.200,000.

Within the space of *one month* (August to September 1847) the failures in the *corn trade* and provision trade comprised about fifteen firms in the United Kingdom, whose aggregate liabilities were more than £.2,000,000 sterling. These failures were certainly not attributable to Railways\*.

The failures among the general merchants were no more ascribable to the Railways than were those of the corn dealers. In 1847, there was an excessive importation of almost every article of consumption purchased at a high price abroad, but subject to a declension of price at home: the quantities of sugar imported were—

	1844.	1845.	1846.	1847.
Imported, cwts ...	4,880,075	5,820,887	5,613,447	8,196,244
Consumed, ,, ...	4,139,983	4,879,780	5,527,848	5,791,783

Thus, in 1847 the quantity of sugar imported was nearly double the amount of 1844—the *importations* increased by 3,315,169 cwts., and the consumption by 1,651,600 cwts. The price of sugar without the duty fell from 30s. per cwt. in 1845 to 20s. in 1847. The reduction of price, according to the quantities imported on these two years, was £.3,563,036.

In tea there was also an excess of importation over consumption :—

		Imported, lbs.			
1842.	1843.	1844.	1845.	1846.	1847.
40,742,128,	46,612,737.	53,147,078.	51,057,990.	54,768,299.	55,626,765.
		Consumed, lbs.			
37,355,911.	40,293,393.	41,869,351.	44,183,135.	46,728,208.	46,324,298.
		Excess of Imports, lbs.			
3,386,217.	6,319,344.	11,777,727.	7,873,795.	8,040,091.	9,302,467.

\* These statements are derived from the *Economist* of 4th March, 1848.

Thus, between the first and last year the importation was augmented by 15 million pounds, and the consumption not more than 9 million pounds. The excess of importation over consumption was more than three times greater in 1844 than in 1842.

Coffee increased from 38 million pounds in 1843 to 55 million pounds in 1847—and the consumption from 29 to 37 millions: the importation increased by 17 million pounds, and the consumption only by 6 millions.

Cocoa also increased in importations from 3 millions in 1844 to 5 millions in 1847. On these four items of sugar, tea, coffee, and cocoa, the losses in 1847, by a fall of prices, must have been from seven to eight millions sterling.

Hence we see the failures on the 11th September, 1847, of A. A. Gower & Co. (Mauritius sugar trade) for £.450,832; on 17th September, Reid, Irving, & Co. (Mauritius and West India trade) £.660,432; on 25th September, of Cockerell, Larpent, & Co. (East India trade) for £.619,393; Lyall, Brothers (East India trade) £.340,387; Samuel Phillips & Co. (Ceylon) £.101,474; Perkins & Co. (East India and Brazil) £127,327; Gemmel, Brothers (East India and China trade) £.200,000; Barclay, Brothers (Mauritius trade) £.389,504; Rickards, Little, & Co. (East India trade) £.144,676; A. A. Lackersteen (E. India trade) £.178,114; E. Robinson (Mauritius trade) £.100,000; Johnston, Cole, & Co. (East India) £.112,666; Frazer, Wilson, & Co. (West India) £.150,000; Thurburn & Co. (East India trade) £.109,000; Cruickshank, Melville, & Co. (East and West India trade) £.300,000; Trueman & Cook (brokers in sugar, tea, coffee, &c. on which they made money advances) £.319,780; Fry, Griffiths, & Co. (ditto, ditto) £.100,000; Sargant, Gordon, & Co. (ditto ditto) £.150,000. These and various other East and West India traders and brokers certainly did not owe their failures to Railway speculations. Their bankruptcies, like those in the corn and provision trade, were caused by excessive importations far beyond the demands of the nation; by the reduction in price consequent on such excess of imports; and by the traders being



devoid of money or credit, or with too small capital, to enable them to hold their goods and await a rise in price. In several instances mercantile firms who possessed high credit had not really been solvent for years, but were trading on paper accommodation,—“kites” that were sure to come down in the long run, and to involve all connected with them, whether as bill-brokers or bankers, in general ruin.

The stoppage of Sanderson & Co., the extensive bill-brokers, was mainly owing to the large advances made to Leslie, Alexander, & Co., and to other persons engaged in the corn trade; to the panic that arose in this branch of business, and to the instantaneous withdrawal of large sums of money held at call by Mr. Sanderson, who was highly respected, but unfortunately absent from town at the crisis. The stoppages or failures of Job Wright & Co., Russian merchants for £.600,000; of John Thomas, Son, & Lefevre, for £.401,760; of Jeremiah Harman & Co., Russian trade (who had not been solvent for a quarter of a century) for £.540,000; of A. and J. Downie, wool trade, for £.170,000; of Cotesworth, Powell, and Pryor (London), Brazilian trade, for £.300,000; and Anderson & Co. (Glasgow), ditto, ditto, for £.170,000; Jevornons, Son, & Co. (Liverpool), for £.100,000; Alison, Cumberlege, & Co., South American trade; Bensuson & Co., African trade; Watson, Brother, & Co. (Liverpool), £.200,000; Burts, Watson, & Co. (Manchester and Leeds), £.100,000; Watson, McKnight, & Co. (Glasgow), £.200,000; Barton, Irlam, & Co. (West India), £.300,000; Bruce, Buxton, & Co.—these and other houses in the foreign trade do not owe their misfortunes to Railroads. The failures in September consisted of about twenty firms, whose liabilities were estimated at from nine to *ten* millions sterling. It is quite clear that this excessive liability was caused by an excess of credit, and its result, extravagant speculations. Merchants gambled with “paper” against “gold,” and lost in the long run.

Since the foregoing was written, a useful work, entitled the “Commercial Crisis of 1847-48,” by Mr. D. Morier Evans, has been published, in which the author endeavours inferentially to

make it appear that the failures in trade from August 1847 to August 1848, were owing to the "Railway mania" in 1844-45. The ingenious writer has himself disproved the assertion by the valuable facts given in the Appendix and other parts of his volume. He shows that the failures in the corn trade arose from excessive speculations and an unnatural rise in price to 105*s.* and 102*s.* per quarter in May and June 1847, and a rapid fall to 64*s.* and 51*s.* in August and September 1847, with abundant supplies. In sugar and other tropical produce Mr. Evans states truly there were increasing importations and lower prices. It is well known that the internal consumption of all commodities used by the bulk of the people, especially by the labouring classes, has been fully maintained during the past three years, owing to the demand for labour on the Railways, and to the money circulated throughout the country. Notwithstanding the comparatively low price of corn from September 1847 to the present period, the farmers and landed interest of England have prospered, despite the predictions of their ruin. They owe this prosperity chiefly to the full and remunerative employment created by Railways, and the consequent augmented consumption of agricultural produce.

The "Commercial Crisis" must sooner or later have come; and but for the active internal industry which the Railways created, its effects would probably have been seriously felt in the manufacturing districts, which are far more liable to suffering by a deterioration of the *home* market, than by a diminution of the foreign trade, in which revulsions are periodical, owing to speculations, unforeseen fall in prices, and want of sufficient capital.

Messrs. Trueman and Cook, the produce brokers of Mincing Lane, in the beginning of 1846 ascribed the fall in prices of tea, indigo, &c. to the "Railway undertakings," whereas the fall was sufficiently accounted for by large and injudicious advances on produce, which unnaturally raised prices and stimulated production to an extent beyond the means of consumption.

Others assert that Railways caused a conversion of floating into

fixed capital, and by diminishing the quantity of money in circulation caused the great mercantile failures; but the capital employed in Railways, *i. e.* the sovereigns and bank-notes, was most actively floating, passing quickly from hand to hand, and pouring life-blood into the remotest hamlets of the kingdom.

Mr. Morier Evans has collected the "balance-sheets" and other documents of many of the firms who failed during the "crisis," and a more painful picture could scarcely be exhibited. The first document given by Mr. Morier Evans, is the balance-sheet of Messrs. Cockerell, Larpent, & Co., who it is evident from their own showing had not been solvent for several years—either as regards the firm in London, or in Calcutta: yet three of the London partners, Sir G. Larpent, Mr. Brownrigg, and Mr. Cockerell, drew *as profits* during the last seven years more than £.132,000, *i. e.* each to the extent of £.44,000.—(Appendix to "Commercial Crisis," p. 11.)

The liabilities of the London firm when it suspended payments 27th September, 1847, were stated at £.619,393; but by a further statement on 26th February, 1848, they were found to be augmented to £.756,662. When the firm stopped payment, 27th September, 1847, it was under *acceptances* to the enormous sum of £.606,586, and the WHOLE OF THE CASH IN HAND WAS ONLY £.2317—! At a meeting of the creditors on 18th October, 1847, the liabilities were, as above-stated, given at £.619,393, and the assets at £.809,254, showing an assumed surplus of nearly £.200,000. As yet no dividend has been made, although the creditors were assured that on 1st January, 1848, they would receive 20 per cent. on their debts. The Calcutta branch of the firm in Austin Friars (for they were to all intents and purposes one business, and realised fully the Lombard Street designation of "*pig drawing upon bacon*,") was still worse. The liabilities of Mr. Larpent's house at Calcutta, according to the statement of October 1847, were £.1,006,600, but its assets were given at £.1,265,100, subsequently reduced by £.111,300, and finally stated at £.511,800.

The whole statements given are so confused, so irreconcilable with each other, and so mingled with the nefarious transactions of the "Union Bank of Calcutta," and of the "Bengal Indigo Company," that it is impossible to arrive at any definite conclusions.

Let us examine the next case on the list furnished by Mr. Evans. Messrs. Reid, Irving, & Co. suspended payment on 17th September, 1847, when their outstanding acceptances were £.793,782, and their CASH "*at the Bank of England and at the bankers which will be retained against liabilities* £.5491." That is, Messrs. Reid, Irving, & Co. had bills out in their names to the amount of nearly £.800,000, and not one shilling in cash to meet them!

In the balance-sheet (App. pp. 14, 15, 16, &c.) the debts are put down at £ 660,482, and the assets at £.846,756, showing an assumed surplus of £.185,274, at a time when it was known that the very offices in which the firm carried on business were in pawn. The firm entered into speculations in the West Indies to the extent of £.67,797; advanced on various estates in Trinidad, Tortola, Nevis, and St. Kitts, to the amount of £.124,426; and on Mauritius estates, &c. to the amount of £.557,148.

A dividend of one shilling in the pound was declared on 1st July last.

Again, it may be asked what had this failure to do with Railway operations in England?

The firm of Barclay, Brothers, which stood high in the City, suspended payments 13th October, 1847, when the amount of their acceptances out were £.244,678, and "the balance at the bankers, who are creditors for an unsecured loan, £.1,900."—*The liabilities were* £.389,504.

The next balance-sheet quoted is that of Messrs. A. A. Gower, Nephews, & Co., stated to be in the "Mauritius trade." When this firm stopped payment, 11th September, 1847, its acceptances amounted to £.248,720, but there was an "*absence of a cash balance at the bankers* from the face of the accounts, occasioned

by the bankers having in their own right retained the £.3000 or £.4000 in their hands to cover, as far as it would go, loans they had advanced to the house." Yet this firm had "creditors uncovered" to the amount of £.300,982. Its probable liabilities are given at £.450,832, its ledger balances at £.573,501; showing an *apparent surplus* of £.122,669. The house will not probably pay one shilling in the pound; it had not been solvent for several years: one of the partners, however, made a large sum in gambling in a Dutch Rhenish Railway, and received for his share of the assignments of scrip to the Directors more than £.50,000; this for a time helped to keep up a firm which ought to have been brought to a close many years ago.

Lyall, Brothers, stopped payment 30th September, 1848, for £.343,387, and do not appear to have had a shilling at their bankers; yet they pretended assets to the amount of £.422,473.

Mr. Braine arrived in London and established himself here in business in 1846, *after* the Railway speculation, with which he had no possible connexion. His acceptances out when he stopped payment were £.300,205, and the cash at his bankers was only £.1293.

Messrs. Rickards, Little, & Co. stopped payment for £.144,626; no cash at the bankers.

Perkins, Schlusser, and Mullins for £127,327; "cash on hand" £.2,011.

Lackersteen suspended for £,209,051, and the "cash balance handed to the official assignee was £.72." Even this is better than the subsequently named firm of Lackersteen, Crake, & Co., whose liabilities were £.133,091, with no cash whatever.

It would be unnecessary to enumerate all the trading firms who suspended payments; in most instances there was not a guinea left at their bankers, while bills to the amount of thousands were daily being accepted.

Trueman and Cook suspended payment, 15th November, 1847, when the "amount of acceptances out was £.360,335;" and the cash in hand only £.2348. The balance-sheet, however, *assumed*

a surplus of public and private property, including "the separate estate of Mr. Cook (£22,000), consisting principally of Spanish passive bonds, and shares in the Paris and Lyons, and Paris and Strasburg Railways, taken in November, 1847."

Mr. Morris the Governor of the Bank of England, stated to the Parliamentary Committee on "Commercial Distress," that with respect to a large majority of the houses who failed, no assistance would have been sufficient to carry them through their difficulties. On failures in London during the crisis to the amount of more than eight millions sterling in a few months, the dividends will probably not average more than 5s. in the pound. What had the bankruptcy of those houses to do with Railways? Absolutely nothing. What had Messrs. Fletcher, Alexander, & Co., who received assistance to the extent of about £300,000, to do with Railways? Nothing whatever. The firm were under large advances to the "Porto Novo" Iron Works in Madras, and to other speculations; it had no connexion with the "Railway mania." So also with the "London Maritime Assurance," which had been insolvent for several years.

The failure of the "Union Bank of Calcutta," of 16 Bengal mercantile firms, and of the *West India Bank*, had no relation whatever to the expenditure on Railways in England.

Well and wisely did the *Times* comment in reference to the preceding failures, on the enormous liabilities, and the complete unpreparedness of the firms, with any amount of capital to meet the slightest casualty. Mr. M. Evans himself admits that the East India houses "incurred liabilities beyond all prudent bounds, from which they could not hope to relieve themselves without a general insolvency on the part of all concerned" (p. 80). The Chancellor of the Exchequer stated truly, 30th November, 1847, that the "East India trade appeared to be carried on less with a view to profit and loss, than as a mode of raising money by the creation of bills;" and he went on to say that "not only had he been appalled by circumstances which had been brought under his knowledge in the last six months, but so also had persons

who had been long accustomed to trade when they witnessed the reckless character of that system." Sir R. Peel also, on 3rd December, 1847, declared, when ably defending one of his measures, "I hesitate not to say, that if the commerce of the country is conducted on such principles (alluding to the published statements of liabilities as compared with assets) in vain may you look to any legislative regulations, or any regulation but discretion, to prevent the evils which must flow from such a reckless course of conducting commercial affairs." The Honourable Baronet then illustrated his observations with cases—*ex gra.* £.50,000, liabilities, *versus* £.3000 assets. A bank with £.600,000 paid up capital lends £500,000 to one house in the *West India and South America trade!*

Mr. C. Turner, of Liverpool, explained before the Commons Committee on Commercial Distress what he called "*illegitimate trading*," *i.e.* "advancing upon produce before it was shipped, and, in some cases, *before it was manufactured.*" Bills sold in Calcutta to "help the growth of sugar at the Mauritius, or "mortgaged to third parties almost before the sugar was boiled." Mr. Turner stated that some of the houses who failed had "been insolvent *for a long period.*"

It is painful to record these distressing circumstances; but truth is valuable above all things; and the nation has been so strongly possessed with the idea that our great public undertakings in Railways caused the "commercial crisis," that it is essential to disabuse the public mind on this important subject.

It has also been erroneously assumed that the commercial crisis of 1847, in consequence of the previous Railway operations, was unparelled in extent. The evidence before the Commons' Parliamentary Committee in 1847-8 shows that such was not the case.

Mr. W. Cotton, one of the Directors of the Bank of England, considered the distress in 1847 to have been "greatly exaggerated, and nothing equal to what existed in 1825 and 1837." Mr. Jones Lloyd believed that "the disturbance of credit was greater and more widely spread in 1835 than it was in 1847."

Mr. Morris, Governor of the Bank of England, thought that "the damage to the country from the panic of 1825 was greater and more general than any which has taken place in 1847."

In fact, in 1825 and 1837 the stock of bullion was reduced to about three millions—whereas in 1847 the *lowest* average for September and October was upwards of *eight millions*; notwithstanding the large sums previously paid for foreign corn, to supply the potato failure of 1845 and 1846, which deranged the monetary circulation, and caused a money panic far more than all our Railway operations in 1844 and 1845.

That the "panic" of 1847-8 was not consequent on the expenditure of money for the improvement of the traffic and the internal resources of the country, is evident from another fact, if more proof be wanting.

Out of more than 100 Joint Stock Banks in the kingdom, with a *paid-up capital* of about £.24,000,000, only four Joint Stock Banks stopped payment, of which three were in Liverpool and one in Newcastle; both places of excessive commercial speculations.

Of more than 200 private bankers in England, but eight stopped payment, and these were all small and worn-out banks. Not one bank in London, public or private, stopped payment; not one in Scotland, not one in Ireland. It was justly remarked to me, by Mr. Gilbert, that 1825 was a year of "money panic;" but 1847-8 was a year of "*commercial* panic." In the former period money was really scarce, and the circulation of the country was too restricted; in the latter period, money was not in reality scarce, but *confidence* was shaken: throughout the "crisis," mercantile firms in London who required discounts, and whose credit was good, found little or no difficulty in obtaining money, on negotiable paper, at the Bank of England, but of course at an enhanced rate.

It may be said the withdrawal of money from the banks to invest in Railway shares caused a diminution in the working capital of those banks hitherto available for commerce. The



state of the banks throughout the kingdom at the beginning of 1847 and 1848 negatives this impression. The Bank of England is the regulator and the index of all the other banks, especially of those in Lancashire, where Bank of England notes are the sole paper circulation. The following table shows the position of the Bank of England on 5th March, 1847, 4th March, and 16th December, 1848 :—

	Dec. 1848. £.	March 4, 1848. £.	March 5, 1847. £.
Circulation, including			
bank postbills.....	18,710,521	19,008,688	20,151,759
Public deposits .....	7,908,643	6,417,001	5,928,487
Private deposits.....	9,249,649	9,550,889	9,321,695
Securities :—			
Public .....	13,329,012	11,574,921	11,990,079
Private .....	10,669,617	12,933,241	15,819,148
Bullion .....	14,789,872	14,760,815	12,044,934

The bullion in the Bank of England in August, September, October, and November 1847, was £8,000,000 to £9,000,000; in December 1847, £10,000,000 to £11,000,000; in January 1848, £11,000,000 to £12,000,000; and in February, March, and April it increased to £13,000,000 and £14,000,000. The bank-notes issued for these months ranged from £22,000,000 to £28,000,000. These figures show there was no deficiency of metal or paper for the internal trade of the kingdom.

In March 1848, after the French revolution, money was easy at  $3\frac{1}{2}$  to 4 per cent.

The destruction of the greater part of the potato crop in the United Kingdom for two successive years, and the comparatively small cereal crops, caused a waste of the national property, a demand for money to replace that waste, and a general disturbance of the whole social economy, which has been erroneously ascribed to Railways, that took no money out of the country—wasted no public property—but materially improved the national

resources. When the money-market was recovering from the injurious effects of the famine, the high price of cotton, and the general mercantile failures,—the revolutions in France, Italy, Austria, Prussia, Rome, &c.,—checked returning prosperity. These were among the real causes of the past three years' misfortunes.

Commercial distress and panics have occurred in former periods when there were no Railways in existence. If money were scarce and the rate of interest high, then there might be some grounds for assuming that the depression of trade was caused by the abstraction of capital from manufacturers or from agricultural improvement; if the money spent in making Railways in the United Kingdom had been sent out of the country for iron, wood, stone, bricks, &c., then also it might be contended that the Railway system had caused the stagnation of trade and industry from which the nation has suffered. When the "Railway mania," as it is termed, took place, in 1844-5, there was a large accumulation of capital in the hands of the public. 1837 was a year of "panic;" 1838, 1839, 1840, and 1841 were years of pressure, owing to bad harvests and the panic of 1837. In 1842, 1843, and 1844, trade was generally flourishing, but there was no speculation, no investment of capital in new undertakings. The property and income-tax of £5,000,000 yearly shows that the net income of the nation is at least £180,000,000; and, admitting that one-fourth of this sum be not spent, but accumulates from year to year, there would have been in five years more than £200,000,000 seeking profitable employment. Mr. William Ray Smee estimates the annual income of Great Britain at £488,000,000. Taking the population of England and Scotland at 20,000,000, and the average income for each person at £25 per annum, this would show a national income of £500,000,000 per annum, exclusive of 8,000,000 inhabitants of Ireland. To assume that £45,000,000 per annum was saved by the nation out of an income of £500,000,000 is not unreasonable. Sagacious observers foresaw that this unemployed capital would find an outlet in some direction, and it was surely better that it should be spent in public

works *at home* than sunk in South American mines, or foreign loans, where upwards of one hundred millions sterling of British money have been wasted without the attainment of any individual or national good. The foreign loans, and money invested by England in foreign countries since the peace of 1815, probably amounts to *three hundred millions* sterling! As an illustration of the foreign loans, I give the following table, which shows in little more than ten years, *fifty* millions sterling, of which the greater part pays no interest, and the remainder, principal and interest, would be annihilated by an European war:—

Years.	Country .	Amount.	Years.	Country.	Amount.
		£.			£.
1818	Prussian.....	5,000,000	1824	Columbian....	4,750,000
1821	Spanish .....	1,500,000	....	Buenos Ayres..	1,000,000
1822	Russian .....	3,500,000	....	Brazilian .....	3,200,000
....	Prussian.....	3,500,000	1825	Ditto.....	2,000,000
....	Columbian....	2,000,000	....	Danish .....	5,500,000
....	Chili .....	1,000,000	....	Greek.....	1,000,000
....	Peruvian .....	450,000	....	Guatemala ....	1,428,571
1823	Spanish .....	1,500,000	....	Guadaljava....	600,000
....	Portuguese....	1,500,000	....	Mexican .....	3,200,000
....	Austrian .....	2,500,000	....	Peruvian.....	616,000
1824	Peruvian.....	750,000	1829	Brazilian .....	800,000
....	Neapolitan....	2,500,000	1832	Belgian.....	2,000,000
....	Mexican .....	3,200,000			
....	Greek .....	800,000		Total....	55,794,571

#### ADVANTAGES OF HOME EXPENDITURE.

Without entering into abstract questions whether gold and silver coin are capital or merely representatives of capital, such as land, houses, &c.,—or whether the export of gold or silver is of little or no injury to a nation, it may be sufficient to observe *practically* that every sovereign invested in making our Railways remained in the country, circulated in every direction, passed rapidly from hand to hand, yielded food and raiment to thousands of the labouring population, and gave a stimulus to industry, and a value to property in various districts heretofore secluded and depreciated.

If holes had been dug in the earth and bags of sovereigns buried

therein, then indeed it might with justice be asserted that the money invested in Railways was lost in the same manner as money was unproductively sunk in South American loans and mines ; but such is not the fact : indeed, the reverse was the case—sovereigns which had been lying dormant and hoarded for years were brought to light, employed for the purchase of Railway shares ; spent in buying land, laying down rails, building stations ; circulated in the remotest hamlets, and thence returned through the butchers and graziers, bakers and millers, publicans and brewers, &c., to the metropolis and large towns, again to be redistributed in useful channels of industry :—and what has been the result ? The establishment of a system of internal communication, unexampled in any age or in any country ; a concentration of power for governmental purposes, of incalculable political and military importance ; a facilitating and economising of personal transit, and of mercantile traffic ; which has augmented individual and national wealth ; the rapid conveyance of troops, police, and intelligence—of the highest consideration for the maintenance of peace against foreign aggression or internal disturbance ;—a closer and more frequent communion between different parts of the kingdom, to the great improvement of social intercourse \*, and the inculcation by example of order, punctuality, and systematized industrial habits, which can scarcely fail to exercise a beneficial influence on the labouring classes of society.

#### WEALTH OF ENGLAND SUFFICIENT TO MAKE RAILWAYS.

It is a remarkable proof of the wealth of England that there was paid into the Court of Chancery in *England*, under the standing orders 33 & 39 A, on account of Railway Bills laid before the House of Commons between 26th January and 6th February, 1846, *i. e.* in twelve days, the enormous sum of £.11,396,783 on account of 137 Railway Bills ; into the Court of Exchequer in *Scotland*, between the 17th January and 15th February, 1846, the sum of £.2,323,371 on 102 Railway Bills ; and into the Court of Chancery in *Ireland*, between 19th January and

\* But for the Railway system the penny postage could not have been carried out.

6th February, 1846, on 47 Railway Bills £.853,072; making a total sum actually deposited with the Government in a few days of £.14,573,226.—*Parliamentary Return, No. 208, of 8th April, 1846, C. P.*

If it be asked whence was the money obtained for the Railroads? the answer is, from the accumulated dormant or fixed capital of the country, *some of which* stood thus in the year 1844:—

£.368,975,292	Consols, 3 per cent. anns.
125,726,567	Reduced 3 per cents.
9,653,179	3½ per cents. 1818.
825,990	3 per cents. 1726.
66,609,642	3½ per cent. red anns.
144,632,521	New 3½ per cent. ann.
430,076	New 3½ per cent. ann.
1,294,586	Long ann. exp. in 1860.
300,972	Ditto (30 years) in 1859.
266,636	„ „ 1860.
14,553,000	Bank of England stock.
6,000,000	East India stock.
1,734,000	East India bonds.
3,662,784	South Sea stock.
3,497,870	Ditto ditto old ann. 3 per cent.
530,100	3 per cent. ann. and 4 per cent. deb. of 1751.
300,000	Canada guarantee.
28,000,000	Saving Bank deposits.
50,000,000	(about) deposits in private and public banks.
24,000,000	(about) Paid-up capital in public banks—England.
12,000,000	Ditto ditto Scotland „
8,000,000	Ditto ditto Ireland „
25,000,000	Ditto private banks England „
30,000,000	Ditto in various canal, shipping, dock, insurance gas, water, and other companies „
<u>£.925,993,315</u>	Total.
1,000,000,000	Estimated value of land in the United Kingdom.
500,000,000	Ditto houses, buildings Do.

These immense accumulations of national wealth, the fruits of nearly a thousand years' untiring industry, and centuries of internal peace, have furnished the means for constructing our Railway system from private resources, unaided by Government, and without the creation of paper money or of fictitious capital.

#### COST OF RAILWAYS AND COMPARATIVE LOW. FARES IN ENGLAND.

The fares and charges for goods, &c., notwithstanding the heavy expenditure in every branch of Railway preparation from commencement to completion, are really exceedingly low, and, all things considered, cheaper than in France, Belgium, Germany, &c. By Parliamentary Return, No. 414, of 19th June, 1846, it appears that the authorised fares for *first-class* passengers on a great number of Railways, range from 2*d.* to 3*d.* per mile; according to the train being mixed or express; for *second class*, from 1½*d.* to 2*d.* per mile; and for *third class*, from 1*d.* to 1½*d.* per mile; horses 3*d.* to 5*d.*; oxen 2*d.* to 4*d.*; sheep and pigs ½*d.* to 1*d.* per mile; coals 1*d.* to 2*d.*; sugar, grain, and timber 1½*d.* to 3*d.* Cotton, wool, &c., 3*d.* to 5*d.*.—per ton per mile.

Mr. Shaen, junr., makes the following computation of charges (per mile) abroad compared with those in England; but, in order to compare the fares correctly, he makes allowance for the taxes levied on the English lines—viz., passenger duty 5 per cent.; local assessments, about 4 per cent.; income-tax (upon about two-thirds) 2 per cent.; and taxes on deeds, transfers, and receipts, about 1 per cent.=12 per cent. on the whole. So also as regards France and Prussia:—

	1st Class.	2d Cs.	3d Cs.	Horse.	Ox.	Coals.	Bale Goods.	Fine Goods.
Belgianpence	2·44	1·86	1·16	6·44	1·21	1·61	2·415	3·22
Lond. & N.W.	2·10	1·50	1·00	2·97	0·85	0·87	2·000	3·03
France.....	...	...	...	...	1·66	1·67	3·003	3·03

Our third-class fares are 3 per cent. lower than those of the

French, although the accommodation and speed on our lines is far superior. I travelled across Europe from the Adriatic to the German Ocean recently, and on all the lines of Railway I found the fares relatively higher,—the accommodation and speed inferior to those of England. The best and cheapest lines were those in the Grand Duchy of Austria, and in Styria, constructed and worked by the Government.

In the United Kingdom—the cost of our Railways, owing to the Parliamentary charges, the heavy stamps and law expenses, the excessive engineering and surveying disbursements, the exorbitant prices demanded for lands, and the compulsion of keeping open every old road and foot-path, has been very great: thus, according to the Report of the Select Committee of the House of Commons on Railway Acts enactments, 25th August, 1846 the average cost per mile\*, has been :—

Arbroath & Forfar ....£.	9214	Man., Bolton, & Bury..£.	70,000
Chester & Birkenhead..	34,198	„ & Birmingham ...	61,624
Dublin & Drogheda . ...	15,652	„ Leeds .....	64,582
Dublin & Kingston .....	59,122	Midland.....	80,949
Dundee & Arbroath ...	8570	Newcastle,Darlington,	
Durham & Sunderland.	14,281	& Berwick.....	22,992
Edinburgh & Glasgow .	35,024	„ & Carlisle.....	17,837
Eastern Cys. & N.E....	46,355	North Shields.....	44,223
Glasgow Kil. & Ayr.....	20,607	Norfolk .....	13,150
Gravesend & Rochester.	13,333	“ Union, Bolton & P.	27,799
Great Western . ....	43,885	Preston & Wyre.....	22,261
Hartlepool .....	26,660	Sheff. & Manchester ...	48,543
London & Birmingham	38,406	South Eastern .....	44,412
„ Blackwall...287,678		Taff Vale.....	21,610
„ Brighton ...	56,911	Ulster .....	14,334
„ Croydon ...	80,400	York & N. Midland...	25,924
„ South West.	28,004		

Eleven lines in France have only cost £.20,000 to £.25,000 per

\* The cost of some of these lines has been much greater than is here given.

mile; in Austria £.16,000 to £.20,000. In Belgium some lines £.6000 to £.8000.

In the United States every facility is given to the making of Railways; incorporation is granted without the deposit of plans or of capital, and with scarcely any limitation as to credit. The profit is restricted to 15 per cent., and a guarantee is given that no other lines will be sanctioned for 30 years, whose "probable effect" would be to lessen their traffic. Throughout the continent of Europe the respective Governments have given every possible aid to Railways. In some instances the land is granted free, or for a long term of years; in others, taxes, stamps, and duties are remitted or guarantees of interest are given, and all are secured against competing lines for 25 or 30 years. Notwithstanding these advantages, the comparatively low price of land, wages, &c., &c., our Railways will well bear comparison with those on the continent of Europe, or in the United States\*; and especially as regards the welfare of the labouring and poorer classes, for whose benefit the Legislature and Railway Companies have effectively co-operated.

In the "excursion trains" in England passengers are conveyed at the rate of three-tenths of a penny per mile, and on the Glasgow and Greenock line the third-class passengers have been conveyed by ordinary trains at one farthing per mile! On the American Railroads there is seldom more than one class conveyance, and the charge is about 2*d.* per mile, or 2·5, and for goods 3·5 per ton, per mile. On one line there is a power given to charge 4*d.* per mile, and 2*s.* 2*d.* extra for all distances under 10 miles, and for goods 5*d.* per ton, besides expenses. The trains are few, the accommodation of the poorest kind, accidents frequent, and the speed averages only 12 to 15 miles per hour.

The charges on the London and North Western are at present per mile, 1st class passengers (pence) 2·086, 2nd class passengers 1·439, 3rd class passengers 1·000, horses 3·000, carriages 4·000.

\* This is ably shown in detail by Mr. Shaen, jun.



In the long run the London and North Western may gain from the augmented traffic caused by low charges, but for the present the advantage is on the side of the public.

Mr. Wyndham Harding in an instructive summary of "facts bearing on the progress of the Railway system," advocates the lowest practicable fares in order to obtain a large increase in third-class passenger traffic, and enforces his views by quoting the effects of this policy on the "Glasgow and Greenock Railway," of which he was formerly the manager. The "Glasgow and Greenock Railway" is 23 miles long, and runs parallel with the river Clyde. Glasgow has a population of 274,000, and Greenock of 36,000. Paisley with 60,000, and Port Glasgow with 7000, are intermediate towns. There are several summer watering places below Greenock. An excellent line of steam boats plied between Glasgow and Greenock before the Railway was formed—fares one to two shillings—time two hours. A canal between Glasgow and Paisley, with passage-boats drawn by horses at six miles an hour, conveyed a large number of passengers. The traffic before the Railway was opened was estimated at 1,185,340, average fare 1s. 4d. But in 1843 the numbers travelling by *all* conveyances was more than 2,000,000. In 1842 uncovered carriages for third-class passengers, at one farthing a mile (equal to sixpence), between Glasgow and Greenock were introduced, and the annual increase of passengers was 224,000, equal to 32 per cent. on the total number travelling by rail or boat. But the first and second class passengers fell off 39 per cent, as they were tempted by the difference of fare,  $\frac{2}{3}d.$  and  $\frac{1}{4}d.$  per mile, to travel by the third class. The gross receipts increased by 15 per cent., and the working expenses did not appreciably augment.

In 1843 the third-class fares were raised from sixpence to one shilling; and the traffic *immediately fell 18 per cent., and the gross receipts 10 per cent.* Other experiments were tried, such as making the second and third class carriages more comfortable; but the traffic did not increase; the augmentation was solely owing to a reduction from  $\frac{1}{2}d.$  to  $\frac{1}{4}d.$  per mile. On the Garnkirk and

Glasgow Railway in 1847, the fares were raised on first and second class passengers from 6*d.* and 9*d.* to 8*d.* and 1*s.*, and in one year the number of passengers diminished from 145,700 to 119,400, *i. e.* by 26,300. The receipts fell from £.3850 to £.3808, *i. e.* £.47, and the Railway company saved nothing in working. In April 1839, the lowest class fares were increased from 8*d.* to 10*d.*, but the number of passengers decreased so rapidly, that in August the 10*d.* was reduced to 9*d.* The whole number of passengers in 1839 was only 97,746, *i. e.* about 48,000 less than in 1837.—*Evidence of Mr. C. A. King, before House of Commons Committee, 9th April, 1840, page 233.*

The third-class passengers throughout the kingdom have increased from 6,000,000 in 1842, to 21,000,000 in 1847. The proportions of the three classes were, according to Mr. Harding's statement, in

	1842.	1847.
First Class .....	20·2	14·2
Second „ .....	45·4	38·3
Third „ .....	34·4	47·5
	<hr/>	<hr/>
	100	100

In 1842 the third class formed about one-third of the traffic; in 1847 nearly one-half.

The reduction of fares on seven metropolitan lines, between 1842 and 1847, has on first class, averaged 21 per cent.; on second class, 23 per cent.; and on third class, 25 per cent. This does not include return tickets, introduced generally within the last three years, which would show a still greater reduction. The labouring classes have therefore benefited most by Railways; wherever they could sell their skilled or mere manual labour at the best price, they have been enabled to transport themselves thither immediately at a cheap rate.

This beneficial policy may be carried still further by Railway companies, with great advantage to themselves and to the poorer classes of society. It appears, on a comparison between two

Metropolitan, two North of England, and two Scotch lines, that the third-class traffic in 1847, was, on the Great Western 14·6 per cent.; on the Eastern Counties 50·3 per cent. (on the London and North Western 32·8 per cent); Midland 65·4 per cent.; Lancashire and Yorkshire 72·3 per cent.; Newcastle and Berwick 79·5 per cent.; Glasgow and Greenock 83·3 per cent. If the Railway companies generally, but especially the metropolitan, were to reduce their third-class fares to  $\frac{1}{2}d.$ , and subsequently to  $\frac{1}{4}d.$  per mile, they would derive a large increase of traffic without any great augmentation of expense. Wherever economical facilities have been established by omnibus, boat, or rail, the traffic has enormously increased. Where a 6*d.* fare omnibus would not pay, a 3*d.* fare has been established, and a profitable traffic at once obtained.

It may require several years on different lines to work out the problem of low fares, for goods traffic especially, in the United Kingdom. It is correctly observed by the Committee of the House of Commons, that, "cheapness of fares may create a traffic which otherwise could not possibly exist; the charge which, with a traffic of 20,000 tons, would only be remunerative at 10 $\frac{1}{2}d.$  a mile, with a traffic of 1,000,000 tons would be remunerative at about a *halfpenny per mile.*"

#### RAILWAY RATING AND UNJUST EXACTIONS.

No public associations have been so mercilessly fleeced and plundered by parochial bodies and by private individuals as Railway Companies. It is now needless to detail the exactions to which Railway property has been subjected, both in the purchase of land and in law charges; but, as regards parochial assessments, it may be well to adduce some instances, with a view to the redress of these remediable grievances.

Previous to the formation of a Railway from London to Birmingham the rateable value of the land in Middlesex, Hertford, Bucks, Northampton, Warwick, City of Coventry, and Worcester occupied by the Railway at the average rate per acre of the

respective parishes was £.2445 ; and the value at which the Railway and buildings were assessed after the Railway was made was £.128,007, showing an increase of £.125,562. This Railway paid 32 per cent, or one-third of the whole rates of the parishes it passed through, although it conferred an additional value on the land of the counties traversed to the amount of £.354,637, gave constant and remunerative employment to the people,—and caused no burdens to the parishes. The Railway proprietors have, therefore, great reason to complain of the excessive and arbitrary manner in which their property is rated. A short public Bill ought to be passed by the Legislature defining the mode of valuation for Railway property, and affording an inexpensive appeal for either party, such as the County Courts, as the enormous amounts annually exacted from Railway Companies in the shape of local rates, constitute one of the greatest grievances under which these enterprises labour. The instance of the London and North Western Company may suffice to prove this.

This Company's 438 miles of Railway occupy an area of about 5000 acres, the original *assessment* upon which, and upon the buildings displaced, was about £.19,000, and the original amount of rates paid thereon about £.2500 per annum.

At present this Company's property is assessed at upwards of £.600,000, and its annual payments for local rates are £.60,000.

This £.60,000 divides itself into £.45,000 Poor rates ; £.10,000 Highway Improvement Rates ; and £.5000 Church, Police, and other rates.

From the mode in which the Company's property is placed, it is impossible that any additional burden can be inflicted upon the parishes in consequence of the introduction of the Railway. In nine parishes out of ten there are *no stations*, level-crossing lodges, or other erections inhabited by persons in the Railway Company's employ ; and while a Railway establishment exists, the mode in which the Company's servants are engaged prohibits the acquirement of any "*settlement*." Similar reasons

prevent any additional wear and tear to the parish roads, and any demand for accommodation in the parish churches. The Company appoints and pays its own *police*, so that no increased force is necessary for the protection of its property.

Therefore the payments for local rates are not made to meet charges, or additional burdens, but solely to relieve the other occupiers from a portion of their own legitimate assessment. Between London and Birmingham, and the other towns, the London and North Western Company has paid, on the average, 30 *per cent.* of the ENTIRE local rates of the parishes passed through = £.21,000 per annum : and this enormous tax in reality goes in augmentation of the value of adjoining land—for their portion of which the Company paid four or five times its original agricultural value. In fact, the amount paid for land *per acre* between London and Birmingham by the London and North Western Company has been £.500, the agricultural value having been about £.100. If we capitalize the relief of rates = £.20,000 per annum = £.600,000, we shall find that £.1100 per acre has been extorted from the Company, for the mere *space* upon which to construct a work which has redounded to the advantage of the whole community.

The London and North Western Railway, at the Rugby Sessions, appealed against a rate for the poor, in a parish called Church Lawford, and the Bench reduced the amount from £.1800 per mile per annum, to £.500. At Stoneleigh, the rate was reduced from £.1500 to £.500. At Bulkington and Nuneaton, the rate was reduced on appeal from £.800 to £.400 per mile. This establishes the fact that, even under the present law, the rates hitherto imposed have been from two to three times more than the legal demand.

The Parish rating of Railways per annum *per acre* is—

London and North Western ..	£.13 6	York, Newcastle, and Berwick .	£.4 0
Great Western .....	9 16	Eastern Counties .....	4 12
Lancaster and Yorkshire ....	14 10	South Western .....	7 16
Midland .....	7 6	Brighton .....	10 14
York and North Midland ....	5 14	Dover .....	14 6

The average is more than double the rent of the land, making even all due allowance for buildings!

**TRAFFIC ON ONE LINE—THE LONDON AND NORTH WESTERN.**

It would not be within the scope of this pamphlet to examine in detail each of our Railways, but an investigation of the affairs of the largest Railway in the kingdom may be useful, as it combines within itself every description of traffic—passengers and goods in all their variety.

A remarkable illustration of the progressive state of the Railway system, and how much has, within the last few years, been done for the public by the proprietors of Railways is afforded by the following comparison on the “London and North Western” line during the years 1844 and 1848, the former a year of high prosperity, and the latter one of severe commercial and general distress:—

1844.			1848.		
	Number.	Receipts. £.		Number.	Receipts. £.
1st class passengers	815,716	521,746	1st class passengers	959,316	466,088
2nd ditto	921,160	316,326	2nd ditto	2,472,423	468,035
3rd ditto	159,192	56,984	3rd ditto	2,569,608	235,269
No record of class	..	15,502			
			Total ..	5,099,347	1,215,492
Total ..	1,896,068	910,558	Goods, mails, parcels, &c.		978,800
Goods, mails, parcels, &c.		582,667			
			Total receipts ..		2,194,092*
Total receipts ..		1,493,226*			
Miles open, 263. Miles run, 82,522,861+.			Miles open, 435. Miles run, 195,129,791+.		

Thus, with an addition of 172 miles in 1848 to the 263 miles open in 1844, there was an addition to 1,896,068 of 4,103,279 passengers, and in receipts an augmentation of £.700,876; the principal augmentation was on the goods traffic receipts.

The average receipts of the “London and North Western” principal lines are now £.5046 per mile per annum, which is a high range of revenue; and, under a fair state of commercial activity, the annual receipts may soon be expected to average *three millions sterling*.

\* Exclusive of the Manchester and Birmingham and Bolton branches.

+ Passenger trains only.

Capt. Huish thus states the traffic on the London and North Western Railway for the year ending 30th June, 1848 :—

	Receipts.	Mileage run.	Recept. per mile.
Passengers .....	£1,417,659	4,220,078	6s. 8½d.
Goods and coals, &c...	722,376	2,626,049	5 9

The goods and coals are given after deducting collections and deliveries and terminal changes at Camden station, and the sum of £.105,087, which is included in the passenger receipts, but was paid for parcels, might fairly be added to the receipts for goods, making a total on that branch of traffic of £.827,463 *during a year of unparalleled mercantile depression*, and the *first* year that the London and North Western Railway took the carrying trade into their own hands ; subject, therefore, to manifest disadvantages.

The total *weight* of passengers carried by the London and North Western for the year ending 3rd June, 1848, was 399,956 tons over a distance of 4,220,078 miles, a tonnage which does not amount to *one-fourth* of the merchandise traffic in the year, while the mileage of the latter is about half that of the former annually.

It is a conclusive proof of the advantages that the poorer class of passengers receive when it is seen that the receipt per mile for passenger traffic is not probably 1s. over that received for merchandise.

#### PROSPECTIVE VALUE OF RAILWAY PROPERTY.

If it be assumed that no great undertaking of this nature can, under any circumstances, yield a profit, it would be useless to enter upon an examination of the probable return to be derived from the capital invested in Railways throughout the kingdom ; but how can such a conclusion be arrived at, when, for instance, we find a Railway (*the London and North-Western*) combining within itself the following advantages :—

1st.—Great length as a trunk line, with numerous branches pouring their traffic on it.

2nd.—Passing through *the most* densely peopled parts of England.

3rd.—Connecting the greatest lines of industry, manufacturing skill, and maritime enterprise that are to be found in any part of the world—London with Liverpool, Birmingham, Manchester, Stockport, Leeds, Preston, Glasgow, Edinburgh, and even with Aberdeen, distant more than 500 miles from the Metropolis.

4th. — Traversing the fertile grazing and agricultural counties of Middlesex, Hertford, Buckingham, Bedford, Northampton, Warwick, Stafford, Cheshire, and Lancashire, which contain a population of about *five* millions.

5th.—Connecting London with Dublin by Chester and Holyhead as well as by Liverpool; London with Belfast (the Liverpool and Manchester of Ireland) by Fleetwood; London with Glasgow and Edinburgh by Carlisle; it is a high road from the greatest city in the world to the richest tributaries of that city, through the wealthiest and most active population of the kingdom, through the great lines of manufacturing industry; and it is in immediate or collateral communication with more than one-half the agricultural, manufacturing, and maritime population of England, Wales, Ireland, and Scotland, including the three largest seaports in the three kingdoms (exclusive of London), Liverpool, Glasgow, and Belfast, and the seats of the iron, pottery, cotton, silk, and woollen manufactures.

Yet the London and North Western Railway, notwithstanding the possession of these remarkable advantages, and having an increasing gross revenue exceeding *two millions sterling*, had its stock quoted, a few weeks ago, *at par*. Why is this? Not from any defect in the original conception of the undertaking, or from an inability to meet the requirements of the traffic, present and prospective; for admittedly this line is one of the best constructed and most efficiently managed in the kingdom; but solely from the too rapid investment and extension in railway undertakings, forcing sales in lines producing revenue to meet calls on undertakings in progress, and from a want of confidence as



to the future intentions and conduct of the Legislature, with respect to the vested rights of the Shareholders.

The security of proprietors or debenture holders in our best Railways, is quite as good, to say the least, as that of the fundholders. No depreciation can for the future in such a line as the London and North Western exceed those fluctuations which have taken place in the funds (10 to 15 per cent. in 1847 and 1848); and a foreign war, which would send down the English funds probably to 60, could scarcely diminish the marketable value of the London and North Western. The Railways of the United Kingdom are a *tangible* property, and not dependent for their value on the fickle breath of popular opinion. Whether the funds rise or fall — whether there be war or peace — whether under our existing happy and free constitution, or under a democratic and tyrannical government, whatever ill fate or good fortune may bring to England—people must travel, merchandise must be carried, and, under ordinary circumstances, population and commerce must increase. If electrical agents be discovered applicable for locomotion, so much the better for the Railroads, which are adapted for any change of power that will offer equal security and greater economy than the existing coal-furnace engines.

The depreciation of Railway securities below a fair value must be evident, if we compare Railway stock with consols, which recently stood thus:—

#### DESCRIPTION OF SECURITIES.

	Yield	£.	s.	d.
Three per Cent. Consols, average price ...	86 $\frac{1}{2}$ p cent.	3	9	7 $\frac{3}{4}$
Excheq. Bills (int. 2 $\frac{1}{2}$ d. per day).....	31 p.	3	14	10 $\frac{1}{2}$
Lancashire and Yorkshire (div. 6 per cent.)	62	8	6	5
Great Western (div. 7 id.) .....	78	8	1	6 $\frac{1}{4}$
London and South Western (div. 6 id.) ...	38	7	17	10 $\frac{1}{2}$
London and Brighton (div. 2 $\frac{3}{4}$ id.) .....	26 $\frac{1}{2}$	4	18	1 $\frac{1}{4}$
Eastern Counties (div. 4 id.).....	13 $\frac{1}{4}$	6	0	9
London and North West. (div. 7 id.) .....	110	6	7	3 $\frac{1}{4}$

	Yield	£.	s.	d.
Midland (div. 6 id.) .....	84 $\frac{1}{2}$ cent.	7	2	10 $\frac{1}{2}$
York and North Midland (div. 8 id.) .....	55	7	5	5 $\frac{1}{2}$
York, Newcastle, & Berwick (div. 8 id.)...	27 $\frac{1}{2}$	7	5	5 $\frac{1}{2}$

Adopting the London and North Western Railway as a standard security, there is an exhibit of nearly 3 per cent. per annum in favour of London and North Western over Government securities.

The panic which seized the public in 1848, with regard to the value of Railway securities, had as little foundation as the sanguine expectations which were entertained in 1845; and the Railway shareholders have in many instances to blame themselves for the want of confidence evinced in the stability and permanence of their property, by their succumbing to the real or feigned fears expressed by those around.

The population of the United Kingdom increases at the rate of half a million a year; the amount of addition to its fixed property is estimated at £50,000,000 sterling, and past experience shows there is every reason to expect a large yearly augmentation of personal and mercantile traffic. In 1846 the number of passengers by Railways was (in round numbers) 43,000,000; in the next year, notwithstanding the depression that existed, the number increased to 51,000,000. The receipts from passengers and goods, &c., increased in one year from £7,400,000 to £8,500,000. The receipts for the year ending December, 1848, are upwards of £10,000,000 sterling, which, on a share capital of £150,000,000, would show about 7 per cent. A large portion of the receipts are of course absorbed in the heavy working expenses, amounting, I believe, on an average to £40 out of every £100. There is, however, reason to conclude that this average of 40 per cent. will be lessened materially every succeeding year, owing to more economical management, and to a cessation of competition. It must also be remembered that several lines on which a considerable part of this large sum of £150,000,000 has been expended have not yet been opened, or at least have only partially

come into operation ; the traffic on them must necessarily increase, and augment future receipts. There ought, therefore, to be more confidence placed in these investments, which have for their base a fixed property in land, buildings, iron, stock, and constructed ways, which no improvement in science or alteration in modes of transit can possibly affect so far as human foresight can predict, and which have not been made to last a few short years, but to endure so long as England is a civilised country.

A few coming years may witness as great a change of the present opinion in the value of Railway securities as has already taken place with regard to Railway travelling. A better illustration of the latter revulsion in the public opinion can hardly be given than in the following extracts from the

QUARTERLY REVIEW (No. 62)  
of 1825.

“ As to those persons who speculate on making railways general throughout the kingdom, and superseding all the canals, all the waggons, mails, and stage coaches, post chaises, and, in short, every mode of conveyance by land and by water, we deem them, and their visionary schemes, unworthy of notice. What, for instance, can be more palpably absurd and ridiculous than the hopeless project that ‘ locomotive machines, moving with *twice the velocity*, and with greater safety, must, in a very great degree, supersede the coaches.’ We should as

QUARTERLY REVIEW (No. 167)  
of 1848.

“ Waggons of coal and heavy luggage, now-a-days, fly across Leicestershire faster and farther than Mr. Osbaldiston could go, notwithstanding his condition and that of all his horses. (Alluding to his feat of riding 200 miles in ten hours on thorough-bred horses, and choosing his own turf.) Now a traveller may go 500 instead of 200 miles in ten hours, and knit or read all the way, performing the journey either in darkness or in daylight, in sunshine or in storm, in ‘ thunder, lightning. or in rain.’ We trust that the wonderful discovery which

soon expect the people of Woolwich to suffer themselves to be fired off upon one of Congreve's ricochet rockets, as trust themselves to the mercy of such a machine, going at such a rate as 18 or 20 miles an hour. We will back Old Father Thames against the Woolwich Railway for any sum. We trust that Parliament will, in all Railways it may sanction, limit the speed to *eight* or *nine* miles an hour, which we entirely agree with Mr. Silvestre is as great as can be ventured upon with safety."

The check which Railway speculation lately received has done good, by causing the abandonment of many lines. By Parliamentary Return, No. 238, House of Commons, 11th April and 4th May, 1848, it appears that a large number of Railways and branches extending over 2229 miles, and involving an estimated cost of £34,883,656, must be postponed; the consent of the shareholders not having been duly given, nor any order authorising the execution of the same having been made by the Commissioners of Railways.

If this principle be followed out by Railway shareholders, and they wisely consent to suffer a present sacrifice rather than incur a greater, an advantage will be gained by the whole community. This course has been adopted by the leading Railways. The London and North Western Directors, on 28th October, 1848, distinctly declared their intention not to proceed with 15 lines of Railway, for which they have obtained Acts of Parliament, empowering them to raise £3,257,000 by stock and shares, and £619,963 by loans—equal to £3,876,963.

it has pleased the Almighty to impart to us, instead of becoming among us a subject of angry dispute, may in every region of the Globe bring the human family into communion; that it may dispel national prejudices, assuage animosities,—in short, that by creating a feeling of gratitude to the Power from whom it has proceeded, it may produce on earth peace and good will towards men."—*Published 30th Dec. 1848.*

The Great Western Railway Company have also postponed 10 lines, for which they were authorised to raise £2,065,709 by shares, and £671,002 by loans. The Directors of other principal lines have pursued a similar course. Many of the abandoned or postponed lines ought not to have been sanctioned by Parliament. They were forced on the companies by the ruinous competitive principle; but the pressure on this point has now ceased, and the projects are wisely laid aside.

If prudential reasons do not induce the Railways throughout the kingdom to follow the above examples, want of means will compel this safe course, and by a sacrifice of what has been unwisely spent, and the closing of the capital accounts of each company, a more buoyant and healthy state of affairs may soon be expected to arise.

It is doubtless true that irrespective of competing lines, or of parliamentary and law expenses, there has been on many lines a wasteful disbursement of money; necessity will cause rigid economy for the future, and if for a time the public have to pay somewhat higher fares, and have fewer trains at their option, the enhanced cost or inconvenience must be borne: no capitalists can be expected to carry passengers and merchandise at a loss; it is the direct interest of the companies themselves to fix the fares at such rates as will not check travelling by their respective lines, and this is a sufficient guarantee that they will not adopt too high a scale of fares.

#### FUTURE LEGISLATIVE POLICY AND RAILWAY MANAGEMENT.

A review of the Railway system leads to the conclusion that the course which has hitherto been adopted by the Legislature, by Railway proprietors, and by their executive, has not been judicious; the result being a great waste of the national resources and a depreciation below its real value of much private property. It is now too late to retrace our steps, the injustice being done

and the capital squandered ; it is, nevertheless, of the highest importance to inquire what ought to be the course of action in subsequent years.

First it behoves Parliament to lay down a just and systematic course of policy with reference to the future, and to give assurance to those who have expended their capital in making Railways, that they will receive protection against any further invasion of their vested property, for the mere sake of competition. Competition between rival lines may for a time cause reduced fares, until the finances of one or both the Companies be brought so low that no economy in working can keep pace with excessive cheapness of fares, and must result eventually in ruin or in amalgamation. Economy in working a Railroad traffic at a speed of 40 to 50 miles an hour, is a very different thing to economy in stage-coaches on a turnpike road. The coach proprietor may diminish the four-in-hand to a " Unicorn " or a pair ; he may use blind, spavined, and galled jades, dispense with a guard, and limit the number of his journeys ; but with the travelling of the present day by means of locomotive power the case is widely different. Efficiency, in every particular, by means of the best instruments and the most trustworthy agents, is imperatively essential.

A false economy in any of these might cause the loss of life and limb to an immense extent ; it is only by the possession of ample funds, and by paying a liberal remuneration for talent and good conduct, that a Railway can be maintained in safety for the public, and with benefit to its proprietary. Cheapness, carried to such an extent as to leave no profit, leads in any business to the speedy ruin of the seller ; but in a Railway such cheapness involves not only ruin to the vendor, but destruction to the purchaser ; and this constitutes a main distinction between competition as applied to Railways, and the same principle when applied to the sale of boots and shoes. As is justly remarked in the " Quarterly Review " for December 1848, " a little Railway, like ' a little war,' is murderous to those engaged in it, ruinous to those who pay for it ; and we are, therefore,

of opinion that it is for the interest of the public not only that traffic should be concentrated as much as possible on large lines rich enough to purchase management, engineering, servants, and materials of the very best description, but that these great lines by uniting together should voluntarily force themselves to exchange all paltry considerations, mean exactions, and petty projects, for those great principles which alone should guide the administration of a *national system* of Railways." "It can never be the interest of the public to prefer *cheap* to *SAFE* travelling. To any one who will carefully observe the practical working of a Railway, it is not only alarming, but appalling to reflect on the accidents which sooner or later must befall the public if there be not an abundant supply of money. Parliament may thunder, Government may threaten, juries may punish, but if the fustian-clad workmen who put together the 5416 pieces of which a locomotive engine is composed are insufficiently paid; if the wages of the pointsmen, enginemen, and police be reduced to that of common labourers; if cheap materials are connected together by scamped workmanship, the black eyes, bloody noses, fractured limbs, and mangled corpses of the public will emphatically proclaim as clearly as a hopper of a mill the emptiness of the exchequer. So long as the manager of a Railway has ample funds, he ought to be prepared, regardless of expense, to repair with the utmost possible despatch the falling in of a tunnel or any other serious accident to the works; in short, the whole powers of his mind should be directed to the paramount interests of the public, which, in fact, are identical with those of the Company. But if he has no funds, or, what is infinitely more alarming, in case from want of funds the impoverished proprietors of the Railways shall have angrily selected in his stead the representative of an ignorant, ruinous, and narrow-minded policy—how loudly would the public complain, how severely would our commercial interests suffer—if on the occurrence of the works to which we have alluded the new ruler were to be afraid even to commence any repairs until he should have been duly authorised by his newly-elected

economical colleagues, to haggle and extract from a number of contractors the cheapest tender!"—(Pages 59, 60, and 62.)

Parliament and the nation at large ought not to regard Railways as dangerous monopolies, antagonistic to the public interests; rightly understood, the interests of the Railways and of the public are identical: a Railway Company with limited capital, struggling with difficulties must be content to eke out a dividend as best it may; it cannot afford to give the public the benefit of the lowest fares, far less of rates which require time for their development. Whereas a Railway Company with large capital, yielding a fair remuneration, can afford to make experiments in the reduction of fares, and especially in the conveyance of goods and of third-class passengers, by which a traffic non-existent, which probably would not have been called into existence but for such experiment, is created, to the material benefit of the mercantile community, and the poorer classes of this country. The same is the case in trade, where an extensive manufacturer can not only furnish the ordinary description of goods cheaper than minor establishments; but is enabled by superior capital to make experiments which, though attended with a degree of risk not justifiable on the part of a small capitalist, is, nevertheless, ultimately advantageous, inasmuch as it opens up a new trade.

So far therefore from considering our Railway Companies unfavourably because of their magnitude, they ought rather to be viewed as examples of the modern mode of combining in one focus the elements necessary to produce a fair profit at the lowest price, by which means the mercantile and travelling public derive the fullest benefit obtainable from the concentration of capital, science, and labour.

As an exemplification of this we find a Railway formed by the union of four of the first established lines, and now constituting the largest corporation in the kingdom, enabled to make not only a reduction in its fares from the charges made on the several lines when acting separately, but it is admitted that the reduction has been carried so low as to be justifiable only with



reference to its future result : and judging by past experience, there is every prospect that the sacrifice thus made by the proprietors will be ultimately compensated by new and augmented traffic.

The whole Railway system of the kingdom is now undergoing a most trying ordeal ; and its proprietors, owing to the pressure of calls, are suffering severe privations ; under such circumstances they may be tempted to seek relief from measures extreme in their nature, and permanently injurious in their effects. Shareholders, however, ought not to be unmindful of the circumstances under which they embarked upon a doubtful and untried speculation, or regard with too much severity, errors which, looking to the feverish excitement consequent upon the introduction of a new and wonderful power, and the marvellous rapidity with which it has risen to its present gigantic state, it would have required more than human foresight to have avoided. But a brighter era, it is to be hoped, is at hand ; its advent, which might be retarded—certainly cannot be facilitated by any sudden and violent changes, or by the adoption of an injudicious system of economy ; for, as stated in the previous paragraph, the interests of the public have become so closely interwoven with and dependent on, the safety and efficiency of the Railway system, that any change which would materially inconvenience the mass must inevitably prove detrimental to the proprietors of Railway property.

At the same time, while guarding against the dangers which have been referred to, it is the duty of Shareholders to urge upon their respective Directories the suspension of all works not urgently required, and the avoidance of all speculative, extravagant, or doubtful expenditure ; above all, to press the bringing to a *close the capital account* ; leaving such works as may from time to time be found indispensable to be accounted for *separately and distinctly*.

The adoption of such a course would not only mitigate the pressure under which the Railway interest is now suffering, but it would go far to remove that doubt and suspicion as to the

real state of the property, which is one of the causes of its deterioration ; still, such is the nature of Railway undertakings, especially with a growing, and yet undeveloped traffic, that much must of necessity be left to the discretion of the executive. It becomes, therefore, of paramount importance, that the management of these vast national concerns should devolve upon men not only of the highest business talent, having a pecuniary interest at stake in the prosperity of the property, but also holding such a position in society as shall place their conduct as far as possible above impugment.

The duties which devolve upon the executive of our great Railways under existing emergencies are onerous, and involve grave responsibility. Much is expected from them by the public on the one hand, and by their proprietors on the other, and it will require no ordinary degree of firmness, and a combination of foresight and of patient industry, to conduct successfully, and with credit, the undertakings confided to their care, and to produce an organisation economical and at the same time efficient. To accomplish this, it is probable that changes may be necessary ; existing arrangements may require modification, and Directories may find themselves called upon to give effect to measures at variance with private or personal feelings. Under such circumstances the executive should not hesitate to do that which their duty to their proprietors demands, namely, the attainment of the highest degree of efficiency and economy, regardless of all other considerations.

At the same time, the fact must not be lost sight of, that a mistaken and injudicious economy not unfrequently results in consequences more injurious than apparent extravagance. It behoves, therefore, the managers of these immense concerns, involving millions of capital, to guard against devoting too exclusive an attention to minor retrenchments rather than to the larger results obtainable by a well-considered and comprehensive system of policy. Let me not be misapprehended on the point of economy : I dissent altogether from the too prevalent

doctrine, that a line is best managed which exhibits the extreme of parsimony in the conduct of its business; let Shareholders remember the integrity and exactitude which is required for the collection and custody of the large receipts of our Railways, amounting to more than ten millions sterling per annum.

The expenditure, also, in conducting a line of Railway, even when complete, is very large, amounting almost to half the gross receipts. The necessity of a regular check over this outlay, in the purchase of material, and in the various processes of manufacture, involving tens of thousands in mechanics' wages, is unquestionable. It would therefore be a pernicious policy which would leave without control the duty of selecting, purchasing, and applying to their various uses a large amount of material, in order to save the expense necessary for such supervision. The same remark applies to the conduct of every other branch of such undertakings, which require the most systematic arrangement and vigilant supervision; and the adoption of such a policy will ultimately prove more conducive to the interests of the Shareholders than that which confines itself to more immediate but less permanent results.

The credit of all Railways from the highest to the lowest has suffered, and is now suffering, from a want of confidence on the part of the public. Whether this be well founded or not, certain it is the impression exists, and can be removed only by Directories furnishing to their proprietors accounts so full, and in such a form, that all may understand them. If evidence of this be wanting, it may be found in the fact that immediately on the publication of the statements lately issued, which were more full and explicit than anything previously rendered, the result, without a single exception, was a rise in the market value of the property to which the statements referred. For instance, the London and North Western Railway Company, previous to the publication of its statement in October last had its stock quoted at par, but in less than a week the £.100 share had risen to £.120, making a difference in the exchangeable value

of this one property to the astonishing amount of nearly four millions sterling.

The Great Western, South Western, Midland, and other Railways, also profited by the more explicit knowledge of the state of their affairs.

In conclusion, Railway Companies have too long warred against each other ; it is high time that all, both proprietors and executive, should exchange the policy of aggression for that of peace and cordiality, and unite in a combined effort for the adjustment of their conflicting interests. By such means they may hope to restore the value of their property, and to guard effectually against a recurrence to the policy which has proved so ruinous. Let the holders of Railway property co-operate to bring under the immediate consideration of Parliament the present position of their affairs, and demand from the Legislature that protection for their vast interests, which they may legitimately claim, as well as redress of the grievous burthens under which their depressed property is now unjustly suffering. Above all, they should require from the Legislature an explicit declaration of its future policy ; for without such declaration, made as solemn and binding as can be rendered by an Act of Parliament, it will be in vain to hope for a complete restoration of confidence for their intrinsically valuable property.

It is the duty of Parliament to record such an assurance, not only in justice to those who ask it, but also in furtherance of the commercial and financial interests of the nation, whose prosperity is closely linked with, and dependant upon, the progress and healthful condition of the Railway system.

Some fifteen years ago, when treating of the " Taxation of the British Empire," when Railways were yet undeveloped, and when to all appearance England had reached the height of power, and had obtained for her internal intercourse, both postal and personal, a degree of perfection the admiration of foreigners, and such as to leave apparently but slight room for improvement, I then, at a time of great national depression and discontent,

ventured to express my anticipations of the future, in the following passage:—

“ Great as is our civilization and intelligence, compared with the empires of former days, we have no right to think that the goal of prosperity and glory is attained. England has by no means reached the zenith of earthly power; science is as yet but in its infancy; the human mind has scarcely arrived at adolescence, and for aught we imperfect beings know, this little island may be destined, by Divine Providence, to continue as a light unto the Heathen—as a nucleus for the final civilization of man.”  
[Preface to *Taxation of the British Empire*, published in 1833.]

The course of events, during subsequent years, has justified some of those sanguine anticipations, and affords grounds for looking forward with confiding hope that the difficulties under which we now labour will in like manner be triumphantly overcome and remain only as evidence of one of those apparently insurmountable trials which this country has almost periodically endured; but which the wealth, industry, and enterprise of the nation have enabled her not only to pass through unscathed, but regain her former position, and advance with renewed energy, as if strengthened by the trial.

The Railway system forms an integral part of our national fabric, and is no exception to the principle which regulates our commercial progress; and I feel confident that if Railway proprietors are but true to themselves, and maintain a just estimate of the real worth of their property, they will see it resume, and that at no distant date, a value, which, though it may fall short of the price it once unduly attained, will nevertheless afford to the original and *bonâ fide* holder, an ample return for the risk and outlay of his capital.

R. M. MARTIN.

MORETON VILLA, KENTISH TOWN.

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LONDON:

PRINTED BY T. BRETTELL, RUPERT STREET, HAYMARKET.

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OPINIONS OF THE PRESS ON "CHINA."

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"Four hundred millions of people yet to be introduced into communication with the rest of mankind! What a prospect for the merchant, the manufacturer, and ship-owner! But there is still a higher and holier prospect. Four hundred millions of active and intelligent human beings have to be brought within the pale of Christianity! Wary stepping too it will require to enable us to succeed in realizing either of these objects. To assist us, an abler man for the task could not be found than the author of the work before us."—*Liverpool Standard*, 22nd Dec. 1846.

"An important *exposé* of the present state of the resources, population, &c., of the whole of China, which must doubtless prove highly satisfactory and important to all parties connected with the history of that yet almost unknown country."—*Sun*, 11th Dec. 1846.

"A work which will be read with great interest; it abounds in materials which illuminate what has hitherto been a dark page in the topography of nations; in reading it we gain an intelligent view into the seeming chaos of that immense social fabric which myriads of human beings have been labouring for innumerable ages to construct, to improve, and to mar, in pertinacious isolation from the common family of nations."—*Journal of Commerce*, London, 19th Dec. 1846.

"The official position of the Author of this work, must have conferred upon him peculiar advantages in obtaining authentic information as far as possible respecting the internal condition of the Chinese Empire. Of these advantages, Mr. Martin appears to have availed himself with his accustomed industry and acumen."—*Edinburgh Evening Post*, 16th Dec. 1846.

# RAILWAY MANAGEMENT.

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## THE PROOF!

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### A THIRD LETTER

TO

GEORGE CARR GLYN, ESQ. M.P.

CHAIRMAN OF THE

LONDON AND NORTH WESTERN RAILWAY COMPANY.

BY

JOHN WHITEHEAD,

OF THE STOCK EXCHANGE, LONDON;

AUTHOR OF "RAILWAY AND GOVERNMENT GUARANTEE,"  
AND "RAILWAY MANAGEMENT."

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CASSIUS—"A friendly eye could never see such faults.

BRUTUS—"A flatterer's would not, though they do appear  
As huge as high Olympus."

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LONDON:

SMITH, ELDER, AND CO., 65, CORNHILL.

1849.

*Price One Shilling.*





TO

GEORGE CARR GLYN, ESQ. M.P.,

CHAIRMAN OF THE

LONDON AND NORTH WESTERN RAILWAY COMPANY.

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Sir,

Two months having elapsed since Capt. Huish, as the General Manager of the London and North Western Railway, ventured into print, with the view of demonstrating that I was in error, when I alleged, in my published Letter to you, of the 15th November, 1848, that the Goods traffic of the London and North Western Railway was conducted at a loss; and a like period having also passed since, in my rejoinder, I denied his conclusions, and challenged him to produce details to justify his unsupported declarations; and no such proof having been adduced, I think I should be fairly entitled to say that Capt. Huish was self convicted. Having, however, been made the object of much malevolent remark,—some persons impugning my motives,—others attacking me for not proving that in a direct manner, which no man, without having the London and North Western books to go to for positive proofs, could do,—I am not inclined to allow the question to drop by default of my antagonist.

As I have stated, it has been said by some, that I had not *proved* my allegation. If there be any force in this objection,—and there certainly is more than I could have

wished,—how much more severely must the objection tell against Capt. Huish, who professed in his published Letter to be able “to attach the cost of every item of Railway expense to each particular description of traffic,” but who produced no such necessary evidence, and when challenged to publish that which he wishes you to suppose he has at his fingers’ ends, fails, though required for his own justification to do so. I think, Sir, I shall be forgiven for assuming that my gallant adversary is really unable to adduce the details called for, or has discovered that their production would ruin his case, and cause the sudden death of his Goods system. It is certain that if Capt. Huish could have annihilated me by “verified details,” he would have done so; he would have had as little mercy on me as have the “Morning Herald,” and “Morning Chronicle.” The former, with all its acrimony, has however done me the fairness of noticing my reply to Capt. Huish; the latter, though possessed of that reply the day before it honored me with a condemnatory Leader, having failed then, or since, to say one word on its merits or demerits.

I think, Sir, that Capt. Huish will be found to be well informed on “generalities,” but that of “particularities” he is utterly ignorant. He can no more satisfy you of what the weight of Goods consisted which was carried of *particular classes*, for any three months of the past year, than I can. He can, I dare say, tell you the total weight, but whether of remunerative or unremunerative traffic, or how made up, he is more uninformed than the clerks in his own office. He can probably give you the number of miles which have been traversed by Locomotives on Goods account, but whether the waggons they moved carried an average load of one ton or four tons he has no means of acquainting himself, or of informing you. The real question, namely, the paying quality of your Goods trade is, therefore, as obscure as it was before Capt. Huish ven-

tured into 22 pages of letter-press, to satisfy the world that it was profitable, which, if a fact, a few verified figures would have substantiated. Capt. Huish, I repeat, need not have exhausted himself over 22 pages of letter-press to prove that I was wrong; it was simply necessary for him to say—"We carried so many tons of the 1st Class Goods, received so much on their account, and expended so much"; and so on through each class; and if he had been able to shew profit, after allowing for every railway contingency, then I should have been defeated, and would gladly have acknowledged myself to be so. All which Capt. Huish really did, was to take advantage of an omission of mine, to except in words from the Merchandise account the amount received for "Smalls." His whole case was built upon that omission. He defended his Tonnage rates by the receipts of the "Smalls." This style of objection was very fair in the *Morning Herald*, who made much use of it, but it was utterly unworthy of Capt. Huish, who was on his trial, and should have taken higher ground than a mere quibble to build his defence on.

Two months having passed by since my challenge was given, I am fairly entitled, I repeat, to hold that Capt. Huish cannot, or will not, produce those verified details which were essential to his case. This kind of negative proof on my side will not, however satisfy me; nay more, I feel it to be incumbent on me to sift the question further, and with this view, I shall proceed to lay before you such confirmatory evidence, in support of my original allegations, as Capt. Huish's meagre Letter, the London and North Western, the late London and Birmingham, and the Grand Junction published Accounts furnish; and I am satisfied that, spite of all difficulties, I shall make out such a case, not only against the system, but the whole management of the London and North Western Railway, as shall at the same time surprise and please the Proprietors—surprise them, because, in their trusting innocence,

they have hitherto imagined the system to be perfection, and the management economical; and please them, since in the reformation of the one, and the correction of the other, Dividends are to be found, which are now absorbed by wasteful mismanagement, and squandered to countenance a system founded in quackery, and supported by little else than delusion.

At page 6 of his published Letter to you, Capt. Huish ventures on the following unqualified assertion in reference to a previous statement made by myself to the contrary, that the London and North Western "system must now work very profitably indeed since the rates were the same," as those which existed under the London and Birmingham rule. In my reply to Capt. Huish's Letter, also published, I ventured to contradict this very rash declaration, and referred Capt. Huish, for proof against himself, to the Company's Accountant; or, if all the olden documents had been destroyed when the new system was introduced, to any warehouseman in Cheapside, who would have satisfied him on the subject. In that reply I did not consider it necessary to go into proofs, thinking it just possible that Capt. Huish seeing that he had committed a gross error would have acknowledged he had been too hasty in what he had written, and so the necessity of formal proof would have been abandoned. This magnanimous part, however, not having been taken by that gentleman, I proceed to give undeniable evidence that the Classifications *toto cælo* have been altered, and in very few cases it will be seen added to, —reduction has been the rule, addition to the price the exception. How Capt. Huish can justify himself for this rash and wrong asseveration I cannot comprehend; indeed I cannot imagine how he could have forgotten his own report to the Directors of the London and North Western Company which bears the date of February 11th, 1848, wherein he acknowledges that the partial working of his Goods system had been followed at Liverpool not by an

increase of paying traffic, but of an addition of "no less than 30,000 tons of grain, flour and provisions, which are in the lowest class," and were all in a higher class before, and are now carried at rates within a fraction of the coal rates, which Capt. Huish is himself ashamed of. His memory must be of about the worst, to have so soon lost all trace of these his own *verba scripta*, and have plunged him into a written declaration of so contrary a character. I can find no excuse for this rashness. Eagerness to support that which absorbs his thoughts by day, and becomes his dream by night, (his Goods system) would be some palliation under other circumstances, and from almost any other man, but for its advocate, its autocrat, (Capt. Huish) to have made this wrong averment, the misstatement is indefensible.

The following details shew the Goods rates as they were under the London and Birmingham regime when £10. per cent. dividends ruled, and those of the London and North Western Company under Capt. Huish's guidance, when the proprietors are woefully asking, "Oh! where, and oh! where is my £10. per cent. gone?" and echo answers despondingly, "Oh where! oh where!" I think, Sir, before I have done, I shall be enabled to give the true reply to this lament, and point out the whereabouts.

It will be remarked, that the rates are set out as between London and Birmingham only, and the reason for this is because, owing to the Grand Junction rates coming into operation from that point, the comparisons cannot be made beyond. If the contrasts could have been carried out to Manchester, the discordances which are shewn would have been more marked, and Capt. Huish's difficulties to defend his heedless assertion and his system too, more and more impossible of being got over.

Now for the statement that "the rates are the same." The following shows the Railway Rates for "Toll and Locomotive Power," which were charged by the London and

Birmingham Company before they were "Carriers," and those now charged by the London and North Western Company as "Carriers on their own account," deducting from the latter, for the collection and delivery, sheets, ropes, loading and unloading, rent of sheds, gas, (formerly paid for separately by the Carriers) damage, bad debts, &c. a uniform 10s. per ton. This will be really insufficient to cover the cost, but it will show to a certain extent what is doing.

The First Class under the London and Birmingham period was a charge for locomotive power *only*, and did not include waggons. The 2nd, 3rd, 4th and 5th Classes of the London and Birmingham *then*, are therefore compared with the 1st, 2nd, 3rd and 4th Classes of the London and North Western *now*.

#### LONDON TO BIRMINGHAM.

CLASSES.	Rates before the Company were Carriers.		Rates now, the Company being Carriers.*		Increased Rate now.
	s.	d.	s.	d.	s. d.
1st	11	8	11	8	Nil.
2nd	14	0	17	6	3 6
3rd	18	8	22	6	3 10
4th	23	4	27	6	4 2

According to this, therefore, there is no gain on the First Class, but there is on the remaining three.

The value of this *apparent* saving will however be a good deal reduced if we drop the distinction of classes, and take the rates paid under the old and under the new system on a few of the staple articles of which the bulk of the Merchandise traffic consists :

\* *Ex* the cost of collection and delivery.

## LONDON TO BIRMINGHAM.

ARTICLES CARRIED. •	Rate to the London and Birmingham Company.	Rate to the London and North Wes- tern Com- pany, less 10s. per ton Carrier Costs	Increase under the New Plan per ton.	Loss under the New Plan per ton.
	s. d.	s. d.	s. d.	s. d.
Grain, Corn and Malt ...	14 0	11 8*	.....	2 4
Porter and Ale .....	14 0	11 8	.....	2 4
Window Glass .....	18 8	17 6	.....	1 2
Cotton Wool .....	18 8	11 8	.....	7 0
Spirits & Wine in Casks	14 0	17 6	3 6	...
Sugar and Coffee .....	14 0	15 0	1 0	...
Common Paper .....	14 0	17 6	3 6	...
Spelter .....	14 0	11 6	.....	2 4
Iron .....	11 8	8 4	.....	3 4
Grates .....	18 8	17 6	.....	1 2
Iron Wire .....	14 0	12 6	.....	1 6
Wool .....	18 8	17 6	.....	1 2
Furniture & light Goods	23 4	35 0	11 8	...

There is a seeming gain of 1s. per ton on sugars and coffee, but practically there is a loss, the fact being that Capt. Huish is so eager to secure "quantity" that he not only does not adhere to his own scale of charges, but is ever ready on pressure from the fortunate or the influential, to reduce his rates in their favour, and it is known that he does so to a large extent when it pleases him to give way,—though he refers the less fortunate tradesman to the schedule when it serves his purpose to do so, he however makes "special" rates on "special" occasions.

Spirits and Furniture are about the only exceptions to the rule of reduced rates; the risk however on these goods is so unusually heavy that there can be little to boast of there.

\* It is to be understood that Grain, Flour, and Malt, are conveyed by barges from the river to the railway, and delivered in Birmingham, by the Company, for 16s. 8d. ter ton. It would be perhaps too much to take 10s. from this rate, but if we take 8s. (supposing the barging, &c. but 2s. per ton less than the carting), we shall have only 8s. 8d. left to the new plan against 14s. under the old, or a loss of 5s. 4d. per ton,—practically the bulk of the grain goes this way.



Can any reasonable man doubt that the London and North Western Company, with the evidence only which these prices afford, has, under very hazardous guidance, embarked in a course in which it requires the coolest head that man was ever blessed with to direct them. Capt. Huish avers that his "rates are the same," and that he has the "Carriers' profits too," the actual undeniable fact being that his rates are so reduced that, coupled with the Carrier's costs, risks, and his own reckless outlay, he is in possession of the shadow only, having, like the foolish dog in the fable, dropped the substance.

As respects the mere difference of the rates, that which I have shewn may be "news" even to you—Capt. Huish's declaration that they "are the same" has no doubt satisfied you hitherto. I trust however not only that you will now enquire for yourself, but that your proprietors will also become a thinking and inquisitive body. The more that London and North Western present management and policy are enquired into the better for all interested; truth only is wanted to give both the "*coup de grace*."

This "carrying on your own account" at the time you adopted it, was the fashionable remedy for improving railway resources. I don't know what was not promised by its promoters, railway revolutions were effected by its advocates; the great experiment which was to work such mighty wonders—which was to make that prosperous which had never prospered before, and that which had always prospered, prosper the more—has been tried on the large and on the small scale. Let us examine into its operation in your great London and North Western Railway Company, seeing that if the experiment had a fairer chance of success than another it had it there, and should, looking farther to the mighty character of the resources at command, have succeeded to perfection if success were possible. I propose, Sir, to examine this most interesting question in every possible phase, and I think the result of

that examination will startle you, and convince you too that you have been completely misled by those about you.

In the Minutes of the Evidence taken before the Select Committee on "Railway Acts Enactments," in 1846, and published by order of the House of Commons, Mr. Saunders is asked, (2393) "Can you state the average expense of each train per mile per ton?"—The answer given is "The best return of the expense per train per mile is in the Report upon the Guages: it is between 4*s.* and 5*s.* per train per mile including the whole expense, the traffic, the locomotive power, the clerks, the policemen, the porters, and the wear and tear of the carriages." (2394) "Everything but the dividends?"—"Everything but the dividends and interest of money." Mr. Robert Stephenson was asked the same questions on a subsequent day, and replied, "The total cost of working the railway trains will vary from 3*s.* to 5*s.* per mile; that is including all the fixed and variable expences; everything included, 5*s.* is the outside," (2831). Again at 2835 he says, "In the London and Birmingham when it first commenced, the first two or three years it ranged about 6*s.* or 6*s.* 6*d.*, but we have reduced the expenses a good deal since that, and it may be taken now as ranging, I think, from 3*s.* to 5*s.* per mile."

The cost of working may without fear of objection be taken as 4*s.* 6*d.* per train per mile, and at this rate I propose to examine your Goods trade. By no other estimate can a just appreciation of the paying character of a traffic be arrived at; the rate fixed by the two high authorities quoted being intended to cover every ordinary railway charge and contingency, such as depreciation of stock and renewal of the way from that daily wear and tear which all the perishable parts of a railway are, despite the greatest care, doomed to undergo, and though a railway company may be so unwise as to leave the morrow to take care of

itself, the rule being to look to the existing moment only, the day of reckoning must sooner or later come, and when it *does* come, if the proprietor have not himself set aside a part of his railway income to meet the call of reparation of stock and renewal of way which will then fall upon him, he will be compelled to pledge his income to raise the means to do that, which a wisely conducted company would have spared him the care even of thinking about, by setting apart annually that small per centage of his means, which put aside year by year would be ready for those claims of which your own railway will be one of the earliest examples, unhappily, most unhappily so, without one penny (save £16,000. last year) to be found in your railway purse to meet the crying, the coming necessity. Of this however more anon, when I come to speak of and give some extracts from your resident Engineer's warning report on the subject.

The 4s. 6d. per train per mile has, as I have stated, been fixed as that which will cover all the usual railway charges; it was not however intended to embrace within its range such extra sums as a railway company being its own carrier incurs over those which a railway company not being its own carrier would need to expend; for example, the London and Birmingham Company, as will be seen by subsequent calculations, would, according to its rate of expenditure in conducting its "non-carrying" trade, have expended £35,639. to earn the £339,800. thus received by the London and North Western Company on Merchandise account in the half-year ending 30th June 1848, against the £75,093. actually expended (exclusive of collection and delivery), the difference therefore I consider as an excess charge peculiar to a company acting as a "carrier," and to be deducted from the profit which may appear to have been made after charging each train mile at 4s. 6d. This deduction and that for the interest on borrowed capital being made, the result will be the profit or loss on the general Merchandise account.

This general Merchandise account receives credit for goods, cattle and coal traffic, and also for a very profitable portion of merchandise trade, termed "smalls,"\* not carried by the ton weight, but charged as barrels of oysters and parcels of limited weight are, at per parcel. Again the profit made on "collection and delivery" slips into this account also, and the innocent shareholder is led to suppose that for "tonnages" only, that is, for goods paid for at 20s. or 40s. per 20 cwts. your Merchandise total is made up; and to this view of the question Capt. Huish has himself most improperly (because wrongly) lent himself, in the note at the foot of page 8 of his published letter, which says, "the merchandise receipts are for tonnage only." This obvious mistake I pointed out in my reply; a misdirection such as this Capt. Huish should never have made.

Railway merchandise accounts seldom give information of any value to the shareholder, those of the London and North Western are no exception to this rule, it is therefore impossible for me (Capt. Huish refusing) to say on which class of your goods you are making a profit, on which the loss that I shall prove really arises. I must leave him to settle that question with you and your proprietors.

To proceed however with the examination—at page 10 of Capt. Huish's letter it appears that the

Merchandise Receipts for the year ending the 30th	
June 1848, were	£ 722,376

That the total Mileage run with Merchandise Trains	
was	2,626,049 Miles

The average Receipt per mile therefore was	5s. 6d.
--------------------------------------------	---------

If we multiply the miles run by 4s. 6d. we shall find the result amount to £ 590,861., which may be esteemed

\* Capt. Huish refers to this class of the traffic in his report of his, of 11th February 1848, a copy of which I have, as the "essence of the whole carrying question," and congratulates himself on "the productiveness of the traffic."

that proper proportion of the earnings which under prudential management should be set aside to meet current charges and future contingencies, the balance after such reserves have been made being the amount from which, after payment of interest on borrowed capital, the dividend fund would arise. As however the company, owing to their being "carriers on their own account" incur costs and charges peculiar to that business, and beyond what may be reckoned ordinary railway charges, it will be necessary to add to the merchandise expenses the excess proportion on the year under examination,—all these things done, the question of "profit" or "loss," in the honest interpretation of the words, will be determined.

The cost of working at 4*s.* 6*d.* per train mile is, as I have shewn above, £590,861. The proportion of the interest on the borrowed capital I take as £58,135. or one-third of the whole amount paid on this account in the year under scrutiny. The whole sum earned by the London and Birmingham Company on Merchandise account for the year ending 31st December 1846—the last of its existence as an independent company—was £217,730. The total costs which appear under the head of "Merchandise Charges" in the same accounts, are £15,933. The total sum earned by the London and North Western Company for the year ending 30th June 1848 on Merchandise account, was £722,376. The costs which appear in the same accounts under the head of "Merchandise Charges" are £153,686.

The foregoing figures are not taken from periods which favor my views; on the contrary, earlier years would have served me better, the London and Birmingham "Merchandise Charges" having been higher by £5000. at least on the year selected than on previous years. By taking the last year's accounts of that Company, and the last published year's accounts of the London and North Western, I felt that I was acting most impartially in respect of both.

The total Merchandise receipts of the London and North Western Company for the year ending 30th June 1848, were . . . £ 722,376

Deduct the cost of working at 4s. 6d.

per train mile . . . £ 590,861

Deduct proportion of interest on Loans . . . 58,135

Deduct proportion of Merchandise Charges, which being peculiar to a Company acting as "Carriers," in excess of those which the London and Birmingham Company, not being "Carriers," would have incurred :*	} 100,825
217,730 : 722,376 :: 15,933 : 52,861	

£ 749,821

Loss on the Merchandise account for the year ending 30th June 1848 . . .

£ 27,445

which £27,445. would be increased just so much as the "smalls," and the profit on "collection and delivery," may amount to. I purpose, however, to leave these values as they stand, and to give Capt. Huish all the advantage of them in his general Merchandise account which they may be worth, and so let this part of my proof remain as it stands.

This generosity, however, on my part, does not relieve Capt. Huish from proving to you on which of the classes of Goods it is that you have made not only this undeniable loss, and swallowed up not alone the whole of the profit on the "smalls" and the "collection and delivery," but that also of those classes of Goods on which at the highest rates there is no doubt profit was made. This is no enviable task for that gentleman to accomplish; it is, however, due to you, to your proprietors, and to the public, that he should justify his allegation openly and publicly made, that "profit" and not "loss" had ensued.

* London and North Western "Merchandise Charges"	£ 153,686
London and Birmingham proportion as per the above	
would have been . . .	52,861

Excess by London and North Western Company £ 100,825

I know that objection will be taken to the 4s. 6d. per train mile test, because the London and North Western Company have not adopted the principle of a depreciation of "Stock" and "Way" fund; but on the contrary, as respects "Stock," have repudiated its necessity. Because, therefore—though your Company is gaining its existence by the aid of machinery which from the nature of its business must be worn out and replaced by new in a period varying, according to the use had of it, from 15 to 30 years—you prefer to divide the uttermost farthing of disposable balance, and leave to your successors the providing of the new machinery, when required, at their own and sole cost, I am to blink the question also, and treat the daily destruction of the perishable parts of your property consequent on your business as part of your profit; as if, in fact, your road was Adamantine, and your resources Californian. This mode of proving your Goods traffic profitable may serve the views of parties who *coute qui coute* wish it to appear so; it will not, however, in the long run suit your proprietors. Profit, clear and indisputable, is that only which would satisfy you in your own great commercial undertaking, and surely the same principle which would govern you in estimating your profits should guide the London and North Western, and all other Railway Companies, in ascertaining theirs. What would be thought of the ship-owner who neither by insurance nor reserve set apart any portion of his annual profits to replace his vessels when by "wreck" or "rot" his stock-in-trade was gone? And yet Railway Companies are so acting, the London and North Western Company—the first in importance—being the first of the wrong doers.

Capt. Huish reminds me strongly of the grocer who sells his good sugars "dirt cheap" that he may find customers for his rubbishy teas at high prices. The parallel holds good, however, in Capt. Huish's case only to the extent of the selling of his sugars at less than prime cost, he having no

teas by the sale of which to make his profit. If losing tonnage-rates would bring remunerative traffic to compensate, then I should say to Capt. Huish, carry cheaper and cheaper still; but I defy him to shew me that he has gained in this way; on the contrary, his low rates have induced a larger mass of the unremunerative traffic to your line, without adding one pound weight of paying traffic.

By Capt. Huish's report before referred to, of the 11th February 1848, it appears that one of the results of the reductions of the wares he deals in has been, to lead to an increase of the weight carried, at one station alone, of 30,000 tons of Grain, &c., which under the London and Birmingham scale of charges would, as between London and Birmingham, that is 113 miles, with a mere fraction of reduction, have brought to the Company 14s. per ton, whilst under the London and North Western scale, but 11s. 8d. per ton is charged. *Ex uno disce omnes.*

Oh! but for a trade in Teas to back this cunning carrying device, and your £10. per cent. dividend would live again. Lacking, however, this essential element, what, let me ask, is to be done, but to discard the grocer's principles, and adopt those in their place which govern private commercial bodies? As the retail grocer, Capt. Huish would have made his fortune: as the manager of your Railway on grocer-like principles, except in selling your sugars he disposes also of your teas, he will soon lose you a serious fortune in money, and reputation too. Let me hope that he will quickly alter his system, and return to sound and wholesome principles of trading.

At pages 12-13, Capt. Huish says, "The immediate question is not the *actual* but the *proportionate* profit of Passenger and Merchandise trains;" and after some would-be facetious remarks at my expence, he proceeds to say, that to convey 100 tons of Goods 22 trucks would be ample, and that the Capital employed in the engine and



other necessities would amount to £3,650.—that 100 tons of Passengers would require for their conveyance a Capital representing, in engines, carriages, &c., £51,600.—the proportions, as between the two, are therefore 14 to 1. That 32 servants would be necessary for the Passenger traffic, 4 being sufficient for the Merchandise business—the proportions therefore on this account are 8 to 1. At page 15 he estimates that the 4 tons of Passengers would require a dead weight of 52 tons to convey them; the 72 tons of Merchandise “only 80 tons”—the proportions on this account are consequently 12 to 1.

The case, therefore, stands thus: that, according to Capt. Huish, the Capital as between the Passengers and Goods is 14 to 1; the Servants, 8 to 1; and the Dead Weight, 12 to 1. There can be no disagreement as to these arithmetical conclusions.

Capt. Huish in no part of his Letter gives the means of comparing the relative cost of the two services. On this, the key of the whole question, he was silent at first, and though challenged to produce the figures in corroboration of his assertions, he is silent still. I must, therefore, continue to make the best I can of the very scanty means he has supplied, “to prove on which side the balance of receipt lay.” Capt. Huish’s object throughout his whole Letter, has evidently been to make the Passengers seem the worst (dearest) traffic of the two.

Taking the three facts as stated, the inference will not be objected to, that the Passenger traffic is not, in first expenses, quite fourteen times so costly as the Goods, the requirements on account of collection and delivery being left out of the question.

Capt. Huish assumes that 100 tons of Goods will require but 22 trucks. Now as he estimates the Passengers at an average according to experience, so should he have estimated the Goods. If he will do this he must allow 44

trucks, and their et ceteras, for his 100 tons of Goods; if he take experience as his guide in the one case to the disadvantage of the Passenger service, common candour should have led him to do so in the other, though it told against the Goods, he having positive accuracy at his elbow, if he desired its production.

Taking 44 trucks, with all their appliances, as the truer estimate, (and making due allowance for the moving of empty trucks, mine will be the approved one of the two,) then the Goods Capital, and attendant expences, must be doubled to arrive at the correct cost of the service. This doubling will necessarily reduce the relative proportions of cost from  $\frac{1}{14}$ th to  $\frac{1}{7}$ th. The cost, therefore, of the Plant of the London and North Western Company's Goods traffic *per ton of paying weight* will be only 7 times as much as that of its Passenger traffic.

We now come to the *proportionate earnings*; and here, again, Capt. Huish has given nothing like official data to guide us. What information, however, he has given is his own, and such as it is, I presume is based upon something of a character to which he can refer, and justify himself to you privately, if he will not to me publicly. Refer to page 11 of his Letter, and you will find as the result of the traffic in Passengers and Goods in the month of October last, that "as the Third Class exceeds the first, a receipt of  $1\frac{1}{4}$ d. per passenger per mile is above an average, while a  $1\frac{1}{2}$ d. a ton a mile was less than the receipt on the Goods, after deducting the cost of collection and delivery." At page 12 we shall find 16 Passengers go to the ton; if therefore I call the earnings from a ton of Passengers 16 times those of a ton of Goods, I overstate the difference, but not materially; say, however, 15 times as much, and my estimate cannot be objected to. Now, I have shewn that the expences of a ton of Passengers are only 7 times those of a ton of Goods; if therefore a ton of Passengers costs £ 14. and earns £ 30., a ton of Goods

will cost £24., and earn £24 $\frac{1}{8}$ . I have been guilty of no assumptions here; I have taken Capt. Huish's facts and figures exactly as he has supplied them, simply correcting his under estimate of the number of Goods trucks, raising it for the conveyance of 100 tons of Goods from 22 to 44 trucks, railway experience justifying the addition.

Now, Sir, for the result, and it is so simple, and withal so conclusive against Capt. Huish, and his whole theory, that I am at a loss to conceive how he will escape from the entanglement of his own net. The portentous conclusion is this: that unless the Passenger traffic makes a profit of  $\frac{1}{30}$ ths of the gross earnings, the Goods make no profit at all! And taking the gross receipts from all sources, and the gross expenditure on all accounts for the year cited by Capt. Huish, (to June, 1848) it will be found that the balance of profit is less by £21,049, than  $\frac{1}{30}$ th of the gross earnings should be; in other words, if he have not built his statement on a fallacy, Capt. Huish himself proves an abstraction in the year referred to from the passenger profits by the merchandise traffic of the £21,049.

Here I might leave Capt. Huish and the Goods question, and pay my parting respects to you, but that an examination into your own London and North Western accounts, since the amalgamation, and those of the London and Birmingham, Grand Junction, and Liverpool and Manchester, before that event, affords food for much useful comparison, and will tend to place the question in a light such as the most opaquely minded cannot fail to comprehend. I purpose, therefore, to institute some comparisons, the correctness of each of which will be verified by reference to the published accounts of the London and North Western Company, for one or all of the five half years which, to the 30th June 1848, followed the amalgamation, and backward from the 31st December 1845, the five half years, one or all which, as respects the three then independent companies, preceded the amalgamation.

The first comparison\* which I shall make shall be a very short but a very conclusive one. The last London and Birmingham statement of accounts was to 31st December 1845, and for the half-year terminating then I find that the total receipts on Merchandise account credited to revenue were £111,691. or on the 113 earning miles, £988. per mile on the half-year—the expences on the debit side, “Merchandise traffic charges,” £12,009. or £106. per mile. The Merchandise receipts of the London and North Western Company for the half-year ending the 30th June 1848, appear by the accounts to have been £339,800., or on the 438 earning miles an average of £775. per mile—the expences under the head of merchandise traffic charges being £75,093. or £171. per mile. These, Sir, are figures, facts and deductions, based on the published accounts of each company. The results are such that I cannot forego repeating them and placing them in juxtaposition, at the same time asking if it be possible to conceive that evidence more damning of the whole system could be found than is here produced. It must be borne in mind too, that the London and Birmingham Company had progressed in its Goods receipts every half-year, and if it had remained independent would have continued to improve, and that the Merchandise traffic charges, owing to the necessity of closing the accounts for the amalgamated company, shew the sum of £12,009. for the half-year the subject of that comparison, whilst the average of the five previous half-years gives about £5,500.; so that in every respect I take that company at a disadvantage, whilst the London and North Western has all the gain (as

\* The London and Birmingham line I have taken as 113 miles (112½ truly), and the London and North Western as 438 miles. If the averages had been struck over the 634 miles, which the company, according to your last report, appear to be really working, the receipts per mile would be £535.; the merchandise traffic charges £118., both per mile. The merchandise receipts, therefore, mile for mile will have fallen 45½ per cent., and the charges increased 11½ per cent.

Capt. Huish considers it) which the change of systems and the competition he has encouraged have given to him. I may remark too, that if each half-year of the two companies be compared one with another the result will be equally unfortunate to the London and North Western proprietors, to that section of them especially who were London and Birmingham proprietors.

	Merchandise Receipts.	Average Receipts per Mile.	Merchandise Traffic Charges.	Average Charge per Mile.
London & Birmingham	£111,690	£988	£12,009	£106
London & North Western	£339,800	£775	£75,093	£171

so that even under the disadvantageous (as respects the London and Birmingham) circumstances above referred to, it appears that the merchandise receipts per mile have decreased  $21\frac{1}{2}$  per cent., the melancholy conclusion also is arrived at, that the merchandise charges have increased  $61\frac{1}{3}$  per cent.!

I could have wished to follow this course of comparison through every item of charge connected with the service, but the accounts give no means of doing so item by item. There is however a very curious illustration in a small way, not bearing out Capt. Huish's romantic account of the Goods train, which in its "stately march gives no trouble on the journey, utters no complaint, and grumbles not at a quiet speed of twenty miles an hour." The following shews what has been paid by the two companies as compensation for accidents and losses, for equal periods before and since the amalgamation.

<i>London and Birmingham.</i>				<i>London &amp; North Western.*</i>			
	£.	s.	d.		£.	s.	d.
31st Dec. 1843	275	17	8	30th June, 1846	934	3	7
30th June, 1844	193	3	0	31st Dec. 1846	3629	2	4
31st Dec. 1844	182	12	6	30th June, 1847	4332	0	2
30th June 1845	463	19	7	31st Dec. 1847	5659	19	1
31st Dec. 1845	683	10	4	30th June, 1848	5242	18	4

\* The current half-year will necessarily show an enormous increase on the cost of losses, that is, if the recent strike amongst the engine drivers be fairly stated.

It appears that the London and Birmingham Company, in the last half year of its existence as an independent concern, earned on Goods account £111,690. at a cost under the head of "Merchandise charges" of £12,009.; the London and North Western Company having in the half year which ended 30th June, 1848, earned on Goods account £339,800. at a cost of £75,093. under the same head of charges.

$$111,690 : 339,800 :: 12,009$$

If £111,690. could be earned on Goods account by the London and Birmingham Company at a cost of £12,009. under the head of Merchandize charges, what would have been the cost to that Company of earning the £339,800. which the London and North Western Company did earn on Goods account? The answer to this enquiry will be £36,535. as that which would have sufficed for the London and Birmingham Company, the actual London and North Western cost having exceeded this by more than cent. per cent. (£75,093.)

Let us try this another way. If the London and Birmingham Company required an expenditure under the head of Merchandize charges in the half year referred to, of £12,009. to earn £111,690., how much would that Company have earned had its expenditure been that of the London and North Western Company (£75,093.)?

$$12,009 : 75,093 :: 111,690$$

The answer to this enquiry will be £698,404., as the amount which would have been earned by the London and Birmingham Company with that rate of expenditure against the £339,800. earned by the London and North Western Company, or nearly cent. per cent. in favor of the London and Birmingham over the London and North Western system!

The Locomotive charges of the same half years give me the opportunity of making two other comparisons elucidative of the question of comparative economy of the London

and Birmingham and London and North Western managements.

The London and Birmingham Company earned in the half year referred to (31st December, 1845,) on Passenger and Merchandise accounts £534,298. at a cost under the head of "Locomotive power" of £57,961.

The London and North Western Company earned in its half year referred to (30th June, 1848,) on Passenger and Merchandise accounts £1,009,907. at a cost under the head of "Locomotive power" of £126,626.

The interesting questions we have now to solve are—  
1st, What, at the rate of its Locomotive expenditure, would the London and Birmingham have disbursed to have earned the £1,009,907. received by the London and North Western. 2nd, What amount the London and Birmingham would have earned at an expenditure of the £126,626. actually disbursed by the London and North Western on Locomotive account,—the earnings and expenditure of each Company forming the elements of the calculations.

1st,  $534,298 : 1,009,907 :: 57,961$

The answer will be £109,555. as that which the London and Birmingham Company would have expended to earn the £1,009,907. earned by the London and North Western against the £126,626. expended by the latter Company, or an excess expenditure on its part over that of the London and Birmingham scale of management of £17,071.

2nd,  $57,961 : 126,626 :: 534,298$

The answer will be £1,167,267. as the amount which the London and Birmingham would have earned at the London and North Western actual expenditure, or £157,360. more than was earned by the latter Company.

Suppose, Sir, we now try the whole earnings and costs of the two Companies for the same periods by the same rule.

The London and Birmingham Company earned in its half year on Passenger and Merchandise accounts the gross

sum of £534,298. at a cost, including interest on loans, amounting to £222,549.

The London and North Western Company earned in its half year on Passenger and Merchandise accounts the gross sum of £1,009,907., and expended, including interest on loans, and loss on North Union Lease, £542,735.

That which I propose to ascertain is, what the London and Birmingham Company at its rate of expenditure would have disbursed to earn that which the London and North Western Company did earn.

$$534,298 : 1,009,907 :: 222,549$$

The answer that these figures will give is £420,398. as the amount which would have been expended by the London and Birmingham Company against the £542,735. actually disbursed by the London and North Western Company.

Try the same half year by another test:

The Carrying Stock of the London and Birmingham Company in the half year terminating 31st December 1845, was estimated in the accounts as of the cost of £298,499., the gross earnings on Passenger and Merchandise accounts having been £534,298.

The Carrying Stock of the London and North Western Company in the half year terminating 30th June 1848, was estimated in the accounts as of the cost of £1,674,600., the gross earnings on Passenger and Merchandise accounts having been £1,009,907.

$$298,499 : 1,674,600 :: 534,298$$

If £298,499. sunk in Carrying Stock enabled the London and Birmingham Company to earn £534,298. on Passenger and Merchandise accounts in the half year quoted, how much would that Company, assuming of course that the same care in the management existed in the one case as the other, have earned with a Carrying Stock of the cost of the London and North Western, (£1,674,600.) The answer to this enquiry will be £2,997,448. as the amount



which the London and Birmingham would, under such circumstances have earned, or nearly 200 per cent. more than the London and North Western did earn, (£ 1,009,907.)

Let me put this in another shape.—If the London and Birmingham Company found in practice, that a Carrying Stock of the cost of £ 298,499. was sufficient to enable them to earn £ 534,298. in a given period of time, what amount of outlay in Carrying Stock would have been required to enable them to earn £ 1,009,907. The answer to this enquiry ( $534,298 : 1,009,907 :: 298,499$ ) will be £ 564,206., or nearly 200 per cent. less than the London and North Western have not only required, but actually laid out in Carrying Stock.

It was my wish to try the Directorial charges for the same half years by the proportionate rule, but to my astonishment I could not find these acknowledged under any of the different heads in the London and North Western accounts. In those of the London and Birmingham they appeared each half year under the head of "General Charges," the positive amount being always stated. The difference between the two accounts as rendered in London and Birmingham times and London and North Western times is of the most marked character, those of the former having been perspicuous beyond praise, those of the latter of the most confined and limited character. It seems really as if at the period of the amalgamation everything which had been sound, frank, and good, or had the least taint of London and Birmingham policy in it, had been discarded.

My next comparisons shall be of more extended periods than those of six months against six months. Let us take the London and North Western for the whole period of its existence against a corresponding time of the London and Birmingham, and of the Grand Junction, separately and together, and compare the respective workings. Before, however, I proceed to this more extended enquiry, I will

link together the various comparisons and their results which I have already made.

1st. As to the Company's charges for the conveyance of Goods, which Capt. Huish said were "the same" as those of the London and Birmingham Company, I have shewn that they have been materially altered for the worse.

2nd. By the "Saunders" and "Stephenson" test, I have proved that the London and North Western Company made a positive loss on their Merchandise Traffic for the year ending 30th June last, of £27,445.

3rd. By Capt. Huish's own evidence, the Passenger Traffic must make a profit of sixteen-thirtieths of the gross earnings, before the Goods can make any profit at all; by this, his own test, the Merchandise shews a loss in the year quoted, of £21,049.

4th. Whilst the London and North Western Goods Traffic receipts decreased beyond those of the London and Birmingham Company in the half years examined  $21\frac{1}{2}$  per cent. per mile, the Merchandise Traffic charges increased  $61\frac{1}{2}$  per cent. per mile.

5th. That the London and North Western Company in the same half years expended in Merchandise Charges £38,558. more than the London and Birmingham would under like circumstances have expended.

6th. That the London and Birmingham Company would have earned £698,404. on Goods account, at the same cost in "Merchandise Charges" which was expended by the London and North Western to earn but £339,800.

7th. That the London and North Western Company expended in Locomotive Power in the same half years £17,071. more than the London and Birmingham would have required to earn the same sum that the London and North Western actually received.

8th. That the London and Birmingham Company would have earned for the same cost of "Locomotive Power" in

the same half year £157,360. more than the London and North Western did earn.

9th. The London and Birmingham Company would, in the earning of the whole traffic of the London and North Western Company for the half year to 30th June 1848, have expended £122,337. less than the latter Company did expend.

10th. The London and Birmingham Company with a Carrying Stock equal to that of the London and North Western would have earned £2,997,448., the latter Company, in the half year the subject of comparison, having earned but £1,009,907.

11th. The London and Birmingham Company would have required a Carrying Stock equal to £564,206. to do the London and North Western business, the same half year, in place of the £1,674,600. required by the latter Company.

Proofs these, I think, pretty strong against the whole internal economy of the London and North Western management!

I shall now proceed with the more extended enquiry, with the view of shewing that whether the London and North Western be examined by sections of its existence or for its whole period, its management is like the journey from "Dan to Beer-sheba," all barren; there is not one redeeming spot from beginning to end.

By referring to the accounts of the London and Birmingham Company for the five half years which preceded the amalgamation, it will be found that the additions made to the Capital account for new Carrying Stock amounted to £97,570., the gross earnings on account of Passengers and Merchandise carried over the line having been £2,269,893.

The London and North Western Company started with a Carrying Stock estimated in the accounts at £681,894.,

since which time new Carrying Stock to the extent of £992,766. has been added,\* and all charged to the convenient Capital account,—the gross sum earned on Passenger and Merchandise accounts during the five half years which have followed the amalgamation having amounted to £5,221,800.

The Grand Junction and Liverpool and Manchester additions to the Capital account for new Carrying Stock for the five half years which preceded the amalgamation amounted to £22,506., the gross earnings of the two having been £1,799,729.; so that adding the separate amounts of the three then independent Companies together they will appear as follow :

	Additions to Capital for new Carrying Stock.	Gross Earnings.
London and Birmingham	£ 97,570	£ 2,269,893
Grand Junction, and Liverpool & Manchester	22,506	1,799,729
TOTALS	£ 120,076	£ 4,069,622
Deduct the Carrying Stock cost from revenue		120,076
		<u>£ 3,949,546</u>
London & North Western	£ 992,766	£ 5,221,800
Deduct the Carrying Stock cost from revenue		992,766
		<u>£ 4,229,034</u>

Supposing the contrast to end here it would *seem* (the London and North Western having a balance in its favor

\* The London and North Western Company are working nearly 200 miles of subsidiary railway, (Chester and Holyhead mainly) which will account for some portion of this outlay. At Capt. Huish's average, as per his report on the rolling stock, this would absorb £520,000. of capital. The proprietors will be curious to know what the assisted company pays for this. The London and North Western accounts, and the Chester and Holyhead accounts acknowledge nothing; taking £5. per cent. for outlay, and £10. per cent. for depreciation, the London and North Western Company make an annual gift to the Chester and Holyhead, and other assisted bodies, of £76,000.

of £ 279,488.) as if profit had resulted to that company from its enlarged operations. Before however this conclusion is adopted, we must examine deeper and probe farther.

The Revenue accounts of the London and Birmingham, the Grand Junction, and the Liverpool and Manchester Companies during the same five half-years contain the following totals (debits) to revenue—

		Grand Junction.	Liverpool & Manchester.	London and Birmingham.
1843.	Dec. 31st	£85,767	£57,642	£176,233
1844.	June 30th	86,916	57,239	167,723
	Dec. 31st	99,703	64,885	182,543
1845.	June 30th	100,364	65,610	192,916
	Dec. 31st	180,499	in Grand Junction	222,549
Totals - -		553,249	245,376	941,964
		Grand Junction - - -		553,249
		Liverpool and Manchester		245,376
		Total - -		£ 1,740,589

The Accounts of the London and North Western Company shew the following totals (debits) to revenue—

1846.	June 30th .....	£ 467,341
	Dec. 31st .....	456,885
1847.	June 30th .....	515,994
	Dec. 31st.....	512,230
1848.	June 30th .....	542,735
Total.....		£ 2,495,185

If therefore we take in each case the total amounts received on revenue account (after having allowed for the new carrying stock, as in the previous statements) and deduct from them the total costs incurred, we shall arrive at a conclusion which will test the present in its relation to the past—

Brought down the foregoing London and Birmingham, and Grand Junction totals - - - - -		£ 3,949,546
Deduct the cost of earning the same - -		1,740,580
Balance—Profit - -		<u>£ 22 08,966</u>
Brought down the foregoing London and North Western totals - - - - -		£ 4,229,034
Deduct the cost of earning the same - -		2,495,185
Balance—Profit - -		<u>£ 1,733,849</u>

So that if neither of the Companies had had an open Capital Account to fly to, for the purpose of charging the cost of new Carrying stock to its convenient pages (it should be here observed that the Liverpool and Manchester Company in its happy simplicity! charged all increase in the carrying stock to revenue) the result of the last five half-years of working would have stood thus—

The three independent Companies in their two years and a half would have shewn a total profit of ...	£ 2,208,966
The London and North Western in its two years and a half would have shewn a total profit of ...	1,733,849
Balance against the London and North Western	<u>£ 475,117</u>

which divided over five half-years gives an average each half-year in favor of the olden over the amalgamated companies of £95,023., or £5. per cent. per annum on a Capital of £3,800,920. Some allowance is no doubt to be made for the lower rates which the London and North Western Company have adopted, and the consequently more numerous trains which have been required to earn an equal amount, at a pro ratâ cost; neither of these reasons will, however, justify an excess expenditure of £ 190,046. per annum, not on one year only, but two-and-a-half years. As respects the Passenger fares the company could hardly avoid the reduction which they made, but the Merchandise

rates, I maintain, it was not only unnecessary, but ruinous policy to alter them, by making reductions without necessity and against the experience and recommendations of all persons conversant with the Carrying trade of the country. Though the system was altered, some regard should have been had to past experience ere so vital a change as that which has been made in the Carrying charges of your company had been permitted.

I have already stated that your accounts do not specify the proportions of "Locomotive Power" charges which apply to the two branches of your traffic, (Passengers and Merchandise,) I have therefore been compelled to take this amount in the lump, as it is rendered in your accounts, and work the same out proportionately with the like charges in the London and Birmingham account, so as to arrive at comparative results; and for this purpose I have chosen the last year of the London and Birmingham, and the last published year of the London and North Western. The items stand thus:—

#### LONDON AND BIRMINGHAM.

1845	£.		£.
30th June Locomotive charges	43,162	Total Passenger and Merchandise Receipts	534,298
31st Dec. Ditto	57,962	Ditto	447,191
	<u>£ 101,124</u>		<u>£981,489</u>

#### LONDON AND NORTH WESTERN.

1847	£.		£.
31st Dec. Locomotive power	124,473	Total Passenger and Merchandise Receipts	1,130,129
1848			
30th June Ditto	126,626	Ditto	1,009,907
	<u>£ 251,099</u>		<u>£ 2,140,036</u>

So that it appears that the London and Birmingham Company, to earn its gross revenue of £981,489., in the last year of its existence as an independent Company, expended under the head of "Locomotive Power, Wages of

Engineers, Engine-men, Firemen, Repairs, Cost of Material, and Coke," the sum of - - £101,124. whereas the London and North Western on its part, for the year ending 30th June 1848, to earn its gross revenue of £2,140,036. expended under the same head of "Locomotive Power, &c." the sum of - £251,099.

Now, Sir, the fair way to prove the relative economy or extravagance of the two managements is, to try the two sets of figures by the same rule of simple proportion which has governed the previous calculations, the particular expenditure on trial being the very heart's blood of your dividend.

It will be conceded to me, that if the London and Birmingham Company could earn a certain sum, at a known cost of that portion of its expenditure which should and can be under constant check and control, as the "Locomotive power" of all other charges clearly ought to be, the London and North Western Company, which has stepped into its shoes, and expended enormous additional sums to enable it to carry on its Locomotive department in a superior manner, and at a cheaper rate, (else why the additional outlay) should at least not have exceeded a *pro ratâ* expenditure in this vital branch over *that* incurred by its predecessor.

If the example be worked out:—

$$981,489 : 2,140,036 :: 101,124$$

the result will give £218,310. as the sum which the London and Birmingham Company would, in the year under examination, have expended for "Locomotive power" to earn the gross revenue of £2,140,036. received by the London and North Western Company. Now as the London and North Western actually expended for "Locomotive Power" £251,099. to realise the amount they earned, it follows, that they did so at a cost of £32,789. in excess of what the London and Birmingham, with all its lesser expenditure in additional workshops, &c. since incurred by



the London and North Western, would have expended. This £32,789., treating it as waste expenditure would have added 8s. dividend to upwards of £8,000,000. of your capital.

One of the chief inducements to the amalgamation, was the economy which it was alleged would be secured by the junction of many concerns into one,—one system, one direction, one management,—all of which are existing. That ingredient, however, which led the many to approve the amalgamation, and all to hope “greater economy,” has fled, and is no where to be found from end to end of the London and North Western Railway.

How much of this additional “Locomotive power” expense is chargeable to your Merchandise department? and how much to your Express trains? are queries I cannot answer. There it is, however, without opportunity for cavil. How it is to be excused is now the question, and an interesting one too it is for your Proprietors to put, and have unequivocally and without reservation answered.

Under every head of charge, by referring to the accounts of the London and Birmingham, the Grand Junction, and the Liverpool and Manchester Companies for the five half years which preceded the amalgamation, and those of the London and North Western for the five half years which have passed since that amalgamation, excess in and not reduction of expenditure is the governing rule. The following are a few examples:—

	London & Birmingham, Grand Junction and Liverpool & Manchester.	London and North Western
General Charges, including Secretary's Accountants, Audit and Manager's Department, Clearing House, and the other Expenses not classed - -	£59,160	£98,508
Police Charges - - - - -	42,944	88,435
Compensation - - - - -	4,141	19,798

The inquisitive proprietor will find much to astonish him, by pursuing these comparisons through the whole of

the accounts, but unfortunately he will discover nothing to gratify him.

I could well have closed my case here, but the subject is so bewitching, and of such vital moment to your proprietors to comprehend, that I shall venture to trespass still further on your patience, by establishing a few more comparisons.

At the time of the amalgamation, (1st January 1846) it appears by the accounts of all the companies, that the Carrying Stock of the distinct Corporations amounted to:—

London and Birmingham	-	-	-	£ 298,499
Grand Junction, and Liverpool & Manchester	383,394			
				<hr/>
				£ 681,893

By the London and North Western statement to 30th June 1848, the cost of the Carrying Stock had run up to - - - £ 1,674,660  
It appears therefore, as has before been stated, that the additional cost of Carrying Stock in two and a half years amounts to - £ 992,766

The London and Birmingham Company, as I have before shewn, earned in the two and a half years which preceded the amalgamation, on Passenger and Merchandise account, £ 2,269,893., with a Carrying stock of the cost of £ 298,499. The London and North Western Company, in the five half years which have followed the amalgamation, have received on Passenger and Merchandise account the gross amount of £ 5,221,800. Assuming that the latter Company had conducted its business on London and Birmingham principles, and concluding also that the Carrying stock of the latter Company was equal to its wants, what would have been the amount of Carrying Stock which the London and Birmingham would have required to earn the gross sum that the London and North Western did in the five half years quoted,—2,269,893 : 5,221,800 :: 298.499. The answer will be £ 686,685. as the proportion of expenditure

in Carrying Stock which would have sufficed the London and Birmingham Company.

Amount of cost of London and North Western Carrying Stock expended to earn £5,221,800	£1,674,660
Amount which would have sufficed under London and Birmingham management to have earned £5,221,800 - - - - -	686,685
Excess Cost of Stock beyond London and Birmingham requirements - - - - -	£987,975
Or at £10. per cent. for depreciation on this excess, an annual loss amounting to - - - -	£98,797

The above example judges the London and North Western by the London and Birmingham scale. Let us now see how the comparison works out between it, and the Grand Junction, and Liverpool and Manchester Companies, each being alike in all things "Carriers on their own account."

The Carrying Stock of the Grand Junction and Liverpool and Manchester Companies, on the day of the amalgamation, was estimated as being of the value of £383,394., and the amount earned by these two Companies on Passenger and Merchandise account, for the five half years which preceded the amalgamation, will by reference to the accounts be found to be £1,799,729. The enquiry, therefore, we have now to make is, what amount of Carrying Stock would have sufficed to enable the Grand Junction Company to have earned the £5,221,800. received by the London and North Western Company in the five half years to 30th June, 1848, which followed the amalgamation.  $1,799,729 : 5,221,800 :: 383,394$ . The answer that will result from this enquiry will be £1,112,393.

Amount of cost of London and North Western Carrying Stock, expended to earn £5,221,800. ....	£1,674,660.
Amount which would have sufficed the Grand Junction Company to earn £5,221,800.....	1,112,393
Excess Cost of Stock beyond Grand Junction requirements .....	£ 562,267
Or at £10. per cent. for depreciation, an annual loss amounting to .....	£56,226

The answer, doubtless, which will be given to this will be a reference to your last Report, wherein you felt it necessary to justify the expenditure on account of Carrying Stock, by shewing that the average cost of plant per mile did not much exceed the average from 1841 to 1848. This would have been very fair, if the additional mileage which has been opened, had been or was likely to be as productive as the trunk portion of your railway. Your proprietors will be delighted indeed to find that your Bedford and Bletchley—your Northampton and Peterboro'—your Leamington and Coventry—your Dunstable—your Trent Valley folly—prove each and all of them equal to your London to Manchester line. Dunstable bonnets against Manchester calicoes—dross to diamonds. How, however, the average has been struck I confess I cannot make out; seeing that your Report divides the sum expended over  $633\frac{1}{2}$  miles, while your official statement of the 28th October, 1848, under the head of "Main Line and Branches producing Revenue," shewing but 438 miles (435 really, the West London not being worked). By the same statement, it appears that you have 62 miles under the head of "Lines in course of formation, not producing Revenue," and that you will require to expend £1,000,000. to complete your Carrying Stock. The total ultimate mileage will therefore be 500 miles, and the average when the £1,000,000. have been expended (£2,674,660. will then be the total) will be £5,349., in place of £2,646. as set out in your Report, and the subject of much self laudation in Capt. Huish's report on the subject of your "Rolling stock."

If the additional cost for Carrying Stock beyond the requirements of the two Companies, had been productive of corresponding gain to the London and North Western Company, the end would have justified the means; but how stands the bare and naked fact? In place of greater nett profits, these have become less and less each half

year; whilst the charges to the debit of revenue have increased out of all proportion to what they bore under London and Birmingham or Grand Junction management; not only on the "Merchandise traffic," but the "Passenger" also. Some examples of these increased debits I have already given.

I shall next proceed, to the best of my ability, to dissect the accounts of the defunct London and Birmingham, and the existing London and North Western Companies, the former, for the five half years which preceded the amalgamation, and the latter, for the five half years which, to the 30th June 1848, have followed the amalgamation. The charges, from the mode in which they are set out in the accounts, which I could fix to the "Passenger" and the "Merchandise" departments, I have done so, the extraneous charges not specially set out, such as "Locomotive power, general charges, &c. &c." I have divided in the proportions which the respective earnings bear towards each other.

#### LONDON AND NORTH WESTERN.

		Total Charges.	Total Passenger and Merchandise Receipts.
From Jany. 1 1846, to June 30 1848.	Passenger proportion	1,595,335	3,510,694
	Merchandise proportion	899,850	1,711,106
		<hr/> £ 2,495,185	<hr/> £ 5,221,800

#### LONDON AND BIRMINGHAM.

		Total Charges.	Total Passenger and Merchandise Receipts.
From July 1 1843, to Dec. 31 1845.	Passenger proportion	742,203	1,761,238
	Merchandise proportion	199,761	508,856
		<hr/> £941,964	<hr/> £2,270,094

Now, Sir, to make an impartial comparison of the relative expenditures which the two Companies incurred on their Passenger and Merchandise traffic, we must again judge them by the rule of simple proportion.

1st. The Passenger.—1,761,238 : 3,510,694 :: 742,203. The answer will be £1,479,440. as the amount which the London and Birmingham Company, according to its rate of expenditure, would have disbursed to earn the £3,510,694. Passenger receipts of the London and North Western Railway.

Actual amount expended by the London and North Western Company in the earning of the Passenger receipts of £3,510,694	-	-	£1,595,385
Amount, which according to the London and Birmingham rate of expenditure, would have been disbursed to earn this £3,510,694.	-	-	1,479,440
Excess expended by the London and North Western			<u>£115,895</u>

As respects the Merchandise traffic worked out by the same rule, the result is still more to the disadvantage of the London and North Western.

2d. The Merchandise.—508,856 : 1,711,106 :: 199,761. The answer will be £671,726. as the amount which the London and Birmingham Company, having none of the carrier's costs and risks to bear, would by its rate of expenditure have disbursed, to earn the £1,711,106. Merchandise earnings of the London and North Western Company, a "Carrier on its own account."

Actual amount expended by the London and North Western Company in the earning of the Merchandise receipts of £1,711,106.	-	-	£899,850
Amount which, according to the London and Birmingham rate of expenditure, would have been disbursed to earn this £1,711,706.	-	-	671,726
Excess expended by the London and North Western			<u>£228,124</u>

The summary of this money test proves a lavish outlay in all points to the disadvantage of the London and North Western Company, the differences being dividends actually lost to the Proprietors by the reckless extravagance exhibited :—

Excess Expenditure on Passengers	£ 115,895
Do. . . do. . . on Merchandise	228,124
Excess Total	- £ 344,019

or, loss to the Proprietors, (the £ 344,019. having been sunk and gone, and no where to be found,) in perpetuity, at £ 5. per cent. per annum, of £ 17,200., or spread over the two and a half years in which it has been expended, an average each half year of £ 68,803., or £ 1. per cent. for each half year on a capital of £ 6,880,300.

No wonder, Sir, that the London and Birmingham Company should have been as successful as it was, seeing that its rate of expenditure was such, that to earn the sum of £ 5,221,800. received in the past five half years by the London and North Western Company, it would have done so at a cost of - - - £ 2,151,166  
The London and North Western actually expending - - - - £ 2,495,185

Surely, Sir, something of this difference must be due to the fact of the London and Birmingham Company having declined the responsibilities of the Carrier—something to a greater care in the general management than since the amalgamation has been exhibited; but more than all, to the carrying on no part of its trade at a loss—no reckless competition—no Express trains—no Coals carried under one penny per ton per mile, the present rate being  $\frac{3}{4}d.$ —On the contrary, every department looked after vigilantly, and economy enforced on every side. Would that this were so now—would that London and Birmingham principles reigned at your Board; there would then be some

hope of improved dividends under such improved management.

Having satisfactorily established my original allegation, that loss is the result of your Goods traffic, and demonstrated by the most indisputable of all tests (figures) that the London and North Western Company's whole business is conducted at an expense which, as compared with the old London and Birmingham system, is prodigal beyond example, and, as contrasted with the Grand Junction, lavish beyond belief, I should have concluded this Letter, but that I consider that some extracts from the report of Mr. Dockray, the Resident Engineer of the London and North Western Railway, to the "Committee of Way and Works," will be interesting, and tend more than any words of mine could to lead the attention of your proprietors to the state of your road, brought about by the heavy weights of coals and merchandise which have traversed it since Capt. Huish's system of seeking quantity and not quality of traffic became the adopted one of your Company. To this cause of damage is to be added, the effect of the Express trains, the suppression of which, from a paper published in the last "Quarterly Review" (of which paper Sir Francis Head is the reputed author) would it appears save your Company at the least £40,000. annually, irrespective entirely of sparing also that incalculable mischief which those trains are causing to the railway itself, and the carriages and engines used, by the rate of speed at which they travel. These two sources of mischief are however so obvious, and so completely within your own means to check and control, that it is a matter of perfect wonderment, at all events as respects the Goods traffic, how any body of directors can permit that part of the trade which brings weight but no profit with it, to be continued. Surely after such a warning as your Resident Engineer has given you, even had you been prospering well in the Goods traffic, it would have been prudent to limit your business to that class of mer-



chandise which would have paid you satisfactorily, until at least you had given your Resident Engineer a fair chance of looking to the road. Rather than encourage more and more to your Railway, it would have been wiser by far to have left to your Canal competitor the conveyance of the to you unprofitable, but to him profitable classes of merchandise, for the carriage of which the lowest rates are paid. You could have obtained a higher price for what you *did* carry, carrying less but profiting more; and it cannot be doubted that your competitors of the Canal and Eastern Counties Railway would gladly have made satisfactory arrangements with you. But no! despite the warnings of Mr. Dockray, Capt. Huish persists in his low rates, apparently regardless of all consequences. Persistence in such a case becomes obstinacy—an obstinacy which will be followed by repentance, but not until costly experience has convinced you, your colleagues, and proprietors, that Capt. Huish's idol is but a brazen image, and not as he has made you believe, a thing of solid gold.

What has Capt. Huish and his Liverpool crotchets done for you? Nothing more and nothing less than this—To bring them into operation, you have been compelled to expend in Carrying Stock alone nearly £ 1,000,000. more than under the system which these crotchets superseded would, for the same paying business, have been necessary,—a stock from its very nature perishable in a few years,—you have earned more in the gross, but profited infinitely less; you have established on each side of you a competition profitable to neither—a competition carried on with an acrimony unheard of since railways began—a competition which will endure so long as you are disposed to give it license—a competition which your rivals, the Eastern Counties Railway Company on your east, and the Grand Junction Canal Company on your west, would gladly end on mutually equitable concessions—a competition in short to which there can be no end, until the question is looked at with that com-

mercial eye which once directed to it must at once cease, and though the system may continue, it will be so under modified and more salutary rules than those which guide it now.

At the present moment you are your own (so-called) insurers against fire, without one penny being set apart to meet any casualty of the kind. You have ceased to consider a depreciation stock fund necessary, and will, if Capt. Huish's advice be adopted, very soon have absorbed for dividend purposes all that which in your days of prudence you had wisely set apart to meet the demands under this head, which must come on you when your Capital Account is closed; and to crown all, you treat the wear of your road as not worthy of serious thought. Let, however, Mr. Dockray, your Resident Engineer, speak for himself on the state of your road; let us hear what he says of the mischief caused to it by your Express trains, &c.

The following are extracts from his most interesting, instructive and elaborate Report on this subject:—

“In laying before you,” (the Committee of Way and Works of the London and North Western Railway Company,) “the following remarks, I have thought it desirable to extend my observations to the construction of Permanent Way generally, with the view of determining the best mode of carrying out the renewals upon the Southern Division of your Railway, which have become necessary at a period of time earlier than I had anticipated, consequent upon the comparatively new circumstances of the great increase not only in the weight but in the speed of the Engines.”

“I would here remark, that when competition was developing the present high velocities upon Railways generally, Mr. Robert Stephenson gave it in evidence as his opinion that the limit would be found, not in any particular gauge or in the evaporating power of the engines, but in the economic endurance of the Permanent Way to bear the additional weight which must, as a matter of necessity, accompany every increase of speed.

“Time is in my opinion rapidly demonstrating the truth of this observation.

“ Every new class of Engine which appears surpasses its predecessor in power and in speed, and it is evident from the large size of some of them about to run upon your line, that at any rate the builders do not consider that they have as yet reached the limit of their scale.

“ The rapid deterioration of the Permanent Way, however, about which there can be no doubt, raises the question, whether the speeds already attained, have not approached the economic limit to which Mr. Robert Stephenson refers. If this be the case, Railway Companies must look to a considerably increased outlay in the shape of renewals of Permanent Way; it may be financially disguised for a time, but sooner or later, it must be met as a regularly recurring charge.

“ I have no doubt that the wear and tear of the Carrying Stock is also increased in a high ratio with the speed, and I do not see why the Public are to reap the whole advantage, leaving the Railway Company the burden of the additional cost. Means should be taken by Railway Companies generally to raise the Express fares, and thus, in some measure, to share the benefit with the Public.”

Mr. Dockray goes on to say,—“ It is evident that, in all renewals, increased weight of rails and increased dimensions of the materials generally, must be adopted to meet the increased duty required.” He further on remarks, that the period of complete renewal on a line which is “ sound and hard ” at bottom “ will vary with the traffic, in ordinary cases I estimate it at from 15 to 20 years.” Mr. Dockray proceeds to remark on those parts of a railway, the super portions of which are, as your line is nearly the whole way from London to Rugby, laid upon the treacherous clayey substrata. Permanent Way so placed, he states, “ is subject to more rapid wear than in the case previously mentioned,”—“ there is very little sound material south of Rugby.” He then describes at length various modes of laying the way, and goes into calculations of each for the information of the Committee, with which it is not my purpose now to give any of the particulars.

This Report of Mr. Dockray's bears the date of August 1848, and must have been presented to the London and North Western Board simultaneously with Capt. Huish's, on the "Rolling Stock." Now mark the apparent influence of the one and the other. On Capt. Huish's recommendation, not only was the "depreciation of Stock fund" voted a bore, and £30,462. reclaimed for the Dividend fund, but his nostrum for future Dividends, in the discovery he made that the "real working value of the Stock is now at least £200,000. more than was paid for it," and that, "in strict justice, the difference between the first cost and the present real value belongs to the existing proprietors, and might be made available for division, or transfer to a reserve fund," was suffered without rebuke to remain as a part of his report, and so to be published; whilst Mr. Dockray's report, save a notice in the Morning Herald, and the Railway Chronicle, received but the scanty attention of a vote in one year of £16,000. for "relaying of rails"; Capt. Huish being allowed to pursue his "will o' the wisp," and conduct your undertaking according to his own unfettered pleasure. Surely, Sir, the day of patient endurance of this absurdity will soon be past.

In Capt. Huish's Report of the 11th February 1848, before quoted, he remarks that the Carriers "were fully alive to the fact, that their personal advantage was best served by embroiling neighbouring companies in a contest for traffic, held on a precarious tenure, and liable at any moment to be abstracted by the offer of more flattering inducements from other parties;"—he then theatrically says, "This is at an end," and adds, "The community of interest necessarily induced by the extension of the carrying principle over all the narrow-gauge lines North of the Thames, has drawn the Companies together, and united them by a mutual bond of kindly feeling." Will any one credit that this state of bliss,—this concentration of all

that was amiable and fraternal,—these diurnal embraces of narrow guagers “North of the Thames,” has turned out a very Pandemonium of bickerings, heart-burnings, and jealousies, and that the blissful February of 1848, as painted by Capt. Huish, will find its fellow of 1849 engaged in intestine hostilities,—not arising from the “flattering inducements” to the olden Carrier (for he is dead and gone) to take his trade to other lines, but amongst the loving Companies themselves. The Eastern Counties Company, supported by Mr. Hudson, on the one side, has ceased to be Capt. Huish’s friend, and has become his bitter opponent; and the Grand Junction Canal Company on the other, has grown into a rival, where it would have been content to have been an humble competitor,—the crumbs from its rich neighbour’s table would once have satisfied it, not so now. The Eastern Counties Company are bringing traffic from the London and North Western districts at the same rates as the latter charge, though the Railway extra distance is some 60 miles more. Profit is the question with neither, defiance ruthless and bitter leads them on. The Grand Junction Canal Company has also extended its business into distant districts, so as to cover Manchester and other places,—that Manchester of which Capt. Huish, in this same report, says, “There was no direct Carrier by Canal between London and Manchester during the last six months.” He will have no need to say this now; his self-lauded system has raised the storm he cannot now lay,—the Canal competitor whom he has created will now and for ever become a fearful rival, not to the extent of his former limits, but to the extremest point to which Canals run. He may arrange with both these parties: I need not, however, say to you, Sir, that he will do so at a severe cost to the London and North Western Company, who at the best must then become content with a divided traffic—a penalty which, had ordinary business prudence

guided the concern, need never have been incurred. "Live and let live," Capt. Huish does not comprehend, at all events he does not practise it.

Again. In this famous Report, Capt. Huish contrasts what he calls the London and Birmingham olden system with his existing system, and shews an apparent increase of "nett profit," as he terms it, of £7,563. 13s. 8d. in favor of the new over the olden system, the periods selected for comparison being the half-year ending 31st December, 1846, which he calls the London and Birmingham period, and that ending 31st December, 1847, which he truly terms that of the new system. Now, Sir, will it be believed that in the half-year which is brought forward as the London and Birmingham example, the Goods traffic was mixed up of the old and the new systems, and as unfit for fair comparison as it is possible to conceive. The utmost which Capt. Huish shews, even thus unfairly made, is that the worth of the half-year's additional receipt of £7,563. 13s. 8d. is the gain only which was made by the London and North Western Company by the expulsion from their railway in their half-year of "the thirty-six carriers who were suddenly deprived of their means of conducting a profitable trade upon the Railway," (these are Capt. Huish's own words,) so that in truth it appears that to make a seeming gain of some £15,000. per year, Capt. Huish considers the end has justified the means. "Thirty-six carriers suddenly deprived of their means of conducting a profitable trade upon the Railway," may be a source of congratulation to Capt. Huish; that, however, which has been amusement to him, has been death to them, and all for £7,500. seeming gain in six months' traffic of the greatest of all railway undertakings. In estimating this £7,500. as additional "nett profit in the half-year," (so Capt. Huish terms it), that gentleman has omitted to debit the account with interest for the new plant, which, as I have already shewn, figures in the

capital account rather largely. Depreciation of stock I must not venture to name as an item he should have considered, Capt. Huish having *proved* that your stock, like wine, "is the better the older it grows." One other extract from this curious Report, and I have done. It is this: "This practical amalgamation of interest is fraught with future consequences of great weight, and has placed the Railways in a position of vantage to contend with their natural opponents, the canals, as a strong phalanx, instead of as disjointed members of a jealous and weak because a disunited party." To all this bombast, February 1849, simply says "false prophet."

You will be my witness, Sir, that my first Letter to you contained no allusion to Capt. Huish in his private capacity, and not one word that could give his susceptible temperament the slightest abrasion. You will recollect also, that Capt. Huish's reply to that Letter was couched in a tone tending to throw ridicule over me, and so to shelve the question I had broached. You will not be surprised that in this, the proof of allegations which in general terms Capt. Huish ventured to deny, I should have been drawn into a severity of remark which I would have preferred to have avoided. Capt. Huish has, however, taunted me, and striven to frighten me from the field; that gentleman has however to learn, that he has met with one who, in the pursuit of truth, has the resolution to press forward, though a whole regiment of Captains with sneers and scoffs attempted to stay his progress.

I have been laughed at by one, abused by another, and praised by many, for forcing this question forward. The laughter I can enjoy, for I can laugh too,—the abuse I can bear, for I have had much of it, and have become used to it,—the praise I can appreciate, for onward it and my own sense of right urge me, to denounce and expose a system of management which I believe to be more fraught with danger to the true interests of your Company than any

scheme, short of utter destruction of your property, which the mind of man could have conceived. I may, and probably shall fail in my efforts to induce early reformation, for proprietors are slow to understand and difficult to move, but whether that coming change which I foresee arise from within or from without your Council-room, I am convinced that the time is not far off when those official clouds which ignorance or interest has spread around you, will soon vanish under the broad sunshine of truth; and when that not very distant day shall come, and present errors made apparent by its advent, then, Sir, I trust I shall be at hand, not to triumph over my fallen adversaries, but to congratulate you and your proprietors on the fact that you have thrown off those shackles which your amalgamation imposed, and resumed in their place those sound commercial principles which, in your London and Birmingham days, led you on to success, and when again readopted,—as readopted they must be,—will do similar good service to the London and North Western Company.

I have the honor to be, Sir,

Your most obedient Servant,

JOHN WHITEHEAD.

LONDON,

2, ROYAL EXCHANGE BUILDINGS,

5th February, 1849.

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P.S. I have been drawn into too much length already to permit me to make further comments on your Coal trade, or to ask some questions as to the past and present, as respects that trade,—I am constrained to leave the matter in the good hands of Mr. Brancker of Liverpool, who in combating the question with Mr. Hudson is virtually doing



so with the London and North Western Board. The information I have received on this Coal question is as curious as extraordinary. It would be interesting to ascertain—How many Coal-owners occupy seats at Railway Boards? I had also intended to go at some length into Capt. Huish's report on your "Rolling Stock," and amongst other queries to have asked what number of carriages declared effective in August last have been condemned since as fit only to be broken up. I had purposed, moreover, putting some questions on the subject of Contracts, Trent Valley Share matters, &c., all of which I must postpone to some other opportunity. Mr. Eckersly's Letter on the Lancashire and Yorkshire traffic, for the same want of space, I am unable at present to advert to farther than to say, that in estimating the amount divisible as profit amongst Shareholders, he has forgotten that which every other Railway Company appears likewise to have a short memory of, namely, depreciation of Stock and Road. Mr. King's recently published pamphlet, "Uniformity of Railway Accounts," I must also pass by, congratulating him on the talent displayed in its composition, and Railway Proprietors on having so able an advocate on the side of right as that gentleman in the work referred to has proved himself to be.

# UNIFORMITY OF RAILWAY ACCOUNTS.

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A FEW REMARKS

ELUCIDATORY AND SUGGESTIVE

ON THE SUBJECT OF

## RAILWAY ECONOMY,

ALSO

PROPOSAL OF A METHOD OF KEEPING RAILWAY ACCOUNTS

ON ONE UNIFORM PLAN,

AND OF

## CLOSING CAPITAL ACCOUNTS

*In a Way that shall not encroach unduly upon present Dividends.*

---

BY GEORGE KING.

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LONDON:

E. F. GOOCH, 55, KING WILLIAM STREET, CITY.

AND SOLD BY

SIMPKIN AND MARSHALL, STATIONERS' COURT.

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1849.

PRICE TWO SHILLINGS.

**LONDON :**  
**THOMAS HARRILD, PRINTER, SILVER STREET,**  
**FALCON SQUARE.**

## INTRODUCTION.

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THE object of this little treatise is to attempt an elucidation of certain points of railway economy, and to offer such suggestions with respect to them, as I am strongly of opinion, will, if acted upon, place railway property generally upon a sounder basis ; and will, by the aid of a better and more uniform system of accounts, which I shall propound, enable a more correct judgment to be formed than is now possible, of the respective merit of each railway, and its value as an investment.

Some work of this kind has become necessary, if for no other purpose than to make more generally known, and thereby, as I would fain hope, lead to a correction of certain vicious principles, daily becoming more and more common, which affect not the interests only, but the very character of some of these undertakings.

There are many who have the means more at command, and are more interested in the execution of this task than I am. Finding, however, the period for holding the half-yearly meetings gradually creeping on, without anything having appeared, or been promised to appear, to supply the want, I am induced, rather than that it should remain wholly neglected, to take it in hand myself.

The want of a proper and uniform system of accounts, and the desire on the part of the executive to represent to the Directors, and of the Directors to the Shareholders, everything in as favourable a light as possible, considering only the present, and regardless of its effect on the future, have (acting together) been the bane of railways, and will in a short time, if the same course continue to be adopted, render the original shares of some of these undertakings utterly valueless. To this original, this pernicious weakness of Executive and Directors, in depicting everything in the *couleur de rose* tints of their own fancy, instead of in the sober hues of reality, is owing the 7,000 to 8,000 miles of rail-

way, much of it of a competing character, authorized in forty-five and six ; from this continued weakness, or ignorance, or want of moral courage to acknowledge and forsake the error into which they have been betrayed, (for it is difficult to say to which it is to be ascribed), proceeds each half-year a very large portion of the periodical increase in the capital account ; to it is attributable much of the reckless outlay made from time to time to force some doubtful kind of traffic, which, if it should prove successful—well ; but whether or not, capital account is at once and for ever debited with the brunt of the trial. To this end have “working charges” at all times been dealt with most tenderly and partially ; it has been the cause of the “maintenance of the road-way” being charged for a certain period after the opening of the line (generally twelve months), to capital instead of revenue account ; it has been the sole promoter of doubts whether the setting aside of a depreciation fund, to compensate for the deterioration which wear and tear, and time together, are producing on the working plant, is not altogether unnecessary, is not even acting on a wrong principle ; in some cases it has solved this off-hand by an affirmative ; in others, where more sound views had at first obtained, it has given occasion for change of opinion and plan, and has ended in almost making it a question whether such sums as had been previously set aside for this object, should not be reimbursed to revenue, to prop up the falling dividends. This it is, that when traffic receipts have disappointed expectation, and working charges remained constant (and hence have appeared unduly high by comparison, or pressed rather too severely upon the current half-year’s dividend), has promoted strong temptations to commute a part thereof for a yearly rent-charge of four or five per cent., applying by way of justification, the flattering unctious that the better times and more flourishing traffic coming, will fully compensate it ; and that even if otherwise, the evil day is at all events deferred. To much, very much of all this, the Shareholders have been accessories, if not the original instigators, in vaunting dividend as the touchstone of management.

But this is not all of the unhappy consequence of this deviation from a correct course, which carries with itself its own punishment. Increase of capital brings an increase of constant working charge, as it were, in the shape of interest. To meet this, other

schemes more objectionable still than those already enumerated, are resorted to. The working establishment undergoes a reduction both in numbers and pay. The security of the public dwindles to a *minimum*, the wages of the servants to that point which renders them just careless whether they retain their situations or leave them. Whether or not managers are beginning to despair of any increase in the income from increase of traffic, or are ignorant of the means by which its accomplishment is to be effected, certain it is, that instead of their attention being turned in that direction, it appears generally devoted just now to less noble gettings, and more ignoble savings; the one and the other doing more injury to the credit of the company, than their paltry amount does benefit to their funds. And thus the liberal spirit which should actuate a corporation, is degenerating into the niggardliness and pitifulness of a petty shopkeeper.

These evils, and the means of remedying them, are among the points discussed in this pamphlet. It also contains a proposal for a Floating Capital Account, and it offers for consideration one general system of stating railway accounts, which I consider will abundantly satisfy as to their accuracy, without the useless machinery of auditors; and which, with respect to working charges, will go very far towards rendering them fixed and absolute, and beyond the power of any one, however so disposed, to tamper with.

The following are the subjects that this treatise embraces, and the order in which they stand:—

1. Railway Management.
2. Fares, &c.—Passenger Traffic.
3. Goods Traffic.
4. Parsimony of Management.
5. Repairs, and Depreciation of Permanent Way.
6. Repairs and Depreciation of Carrying Stock.
7. Closing Capital Accounts.
8. Parish Assessments.
9. Uniform System of Accounts.

G. K.

LLOYD SQUARE,  
January 1849.



# RAILWAY MANAGEMENT.

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*The system proposed is described from the very commencement of an undertaking, but it will be seen is capable of appliance at any of its progressive stages.*

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**NEW UNDERTAKINGS.**—The Prospectus of every new undertaking should contain the following:—

1. The names of the members of the provisional committee, together with those of the engineer, land agent, solicitors, and secretary.
2. An estimate of the capital required.
3. An estimate of the expected traffic.
4. An estimate of the working charges.

**PROVISIONAL COMMITTEE.**—The members of the provisional committee should be divided into a certain number of working committees, with a chairman appointed to each, and the full particulars of these committees should be set forth in the prospectus. They should consist of a land committee,—a works and carrying stock committee,—a traffic committee,—and a parliamentary and finance committee.

A note should be affixed to the list, stating of what other railway companies each member is a director.



**COST OF UNDERTAKING.**—The estimated cost of the undertaking should be set forth under the following heads :—

	£.	£.
1. <i>Estimated amount to cover charges to the time of obtaining the Act, viz.—</i>		
SURVEYING and ENGINEERING, including plans, and attendance to give evidence on the bill .....	—	
SOLICITORS—preparing books of reference, serving notices, and all expenses to the time of presenting petition to bring in bill .....	—	
LAND AGENT—making valuation of land, and attending to prove the same before parliament .....	—	
TRAFFIC estimates and proofs.....	—	
OFFICE and general charges .....	—	
Allowance to cover parliamentary expenses .....	—	
Contingencies .....	—	
2. <i>Expenses in construction of Railway and Stations, together with all contingent charges up to the time of the railway being delivered over by the engineer in a complete and perfect state for traffic. Also, of providing a locomotive and carrying stock, and the necessary sheds and repairing shops, sufficient for a traffic to the extent estimated.</i>		
[Time allowed from the passing of the Act to the time of opening the railway      years.]		
LAND—[      acres within fences] for railway and stations, sheds and shops, including compensation for severance, &c., and all charges of landowners or their agents .....	—	
LAND AGENCY.....	—	
SOLICITORS—conveyancing, stamps, and all expenses connected with land purchases.....	—	
ENGINEERING.....	—	
ROAD WORKS—and laying permanent way .....	—	
PERMANENT WAY MATERIALS—including sidings and crossings on line, and at stations, equivalent in the whole to      miles of double line of way.		
[The price including all charges up to delivery to road contractors.]		
Sleepers, No. ....at	—	
Rails,      lbs. to the yard. Tons.....at	—	
Crossing points, switches, &c.....	—	
Turntables .....	—	

COST OF UNDERTAKING— <i>continued.</i>		£.	£.
STATIONS—including warehouse, cranes, and all necessary fittings, and including water cranes, tanks, pumping engines, &c., all complete.			
Passenger Stations, No. ....	—		
Goods Stations, No. ....	—		
		—	—
GENERAL OFFICE—including furniture, rent, &c...			—
MISCELLANEOUS— advertising, directors' travelling charges, &c. ....			—
CARRYING STOCK, and adjuncts—			
No. engines and tenders, with all necessary duplicate parts and appurtenances .....	—		
Passenger carriage stock, ditto.....	—		
Merchandise stock, ditto .....	—		
Cattle stock, ditto.....	—		
Mineral stock, ditto.....	—		
		—	
Engine sheds and workshops .....	—		
Carriage ditto, ditto.....	—		
		—	
TOTAL—including under each respective item, all contingencies connected therewith .....			—
Amount allowed to meet any charges not included in foregoing, such as general law charges, directors (auditors omitted as unnecessary), debenture stamps, and all other charges, as set forth in detailed statement .....			—
TOTAL AMOUNT AT WHICH SHARE CAPITAL SHOULD BE* FIXED .....		£	—
TRAFFIC ESTIMATE.—The traffic estimate to state—			
No. of PASSENGERS assumed of each class, their average mileage, and average rate of charge per mile .....	—		
No. of HORSES (at average rate of charge per mile)	—		
No. of CARRIAGES ditto ditto ...	—		
No. of PARCELS (at average rate of charge per parcel) .....	—		
Mem.—Government-tax on passengers, and charge to post-master for conveyance of mails, both omitted.		—	—

\* See chapter on "closing capital accounts," for the plan suggested for fixing in future the relative amounts of SHARE and LOAN capital.

TRAFFIC ESTIMATE—*continued.*

	£.	£.
GOODS—in tons, their average mileage, and rate of charge per ton per mile .....	—	—
CATTLE—(of each kind, sheep, and pigs) the average number per wagon, number of wagons, average mileage, and rate of charge per mile per wagon...	—	—
FISH—in tons (average mileage, and rate of charge per ton per mile) .....	—	—
MINERALS—in tons, ditto ditto ... ..	—	—
<b>TOTAL ESTIMATED RECEIPTS (ex: Conveyance of Mails) .....</b>	<b>£</b>	<b>—</b>
<b>WORKING CHARGES.</b> —The estimate of working charges to be divided under the following heads:		
1. GENERAL MANAGEMENT, viz. directors, secretary's department, superintendent's ditto, and all contingent miscellaneous charges.....	—	—
2. MAINTENANCE OF RAILWAY, bridges, fences, &c. at the average rate of £ per mile, including depreciation of rails and sleepers.....	—	—
Repairs, &c. of stations buildings.....	—	—
Engineers, inspectors, and all incidental charges ...	—	—
3. SIGNALMEN, switchmen, and gatekeepers, including clothing, signals, &c.....	—	—
4. TRAFFIC ESTABLISHMENT—Passenger traffic department, and all station charges.....	—	—
Merchandise, cattle and minerals, ditto, ditto.....	—	—
5. RUNNING CHARGES—Locomotive power, including superintendence and all charges, the consumption of coke (including piloting and spare engines), being estimated at lbs. per mile, the cost per ton, and per mile being allowed for repairs and depreciation.		
Passenger trains miles, per mile.....	—	—
Goods, cattle and minerals, ditto.....	—	—
Guards (and charges connected therewith) per mile.....	—	—
Breaksmen, ditto .....	—	—
Carriage charges—Grease and repairs, including depreciation miles of all carriages being equal to carriages per train, at per train ..	—	—
Wagon repairs, ditto, ditto, at per train .....	—	—

WORKING CHARGES—*continued.*

	£.	£.
6 MISCELLANEOUS—viz. compensation for accidents and losses, time-bills, advertising, superannuation fund, &c. ....	—	—
TOTAL ESTIMATED WORKING CHARGES, exclusive of government duty on passengers and parish rates.....	£	—

In addition to these general estimates, the whole should be further published in detail, in the form of a pamphlet, and supplied to any shareholder, or other person, on application, by payment of a reasonable sum to be fixed for the same.

(And this, I may here observe, should be the case with all future documents with which it is desirable that shareholders should be acquainted, which should be added from time to time thereto, so as to form a faithful record of everything of interest connected with the company, and supersede the present returns now made to the Board of Trade.)

Each estimate, or portion thereof, should be signed by its respective head of department and members of committee, and all documents of whatever nature laid before the shareholders, should be authenticated in the same way.

The details of future revisions of the estimate should be on no account omitted from forming an appendix to the original estimates, with full and explicit information thereon; and under no circumstances is the original estimate to be discarded, but to form a perpetual standard for future reference and comparison of what was first held out to the shareholders, and how near it is to or distant from reality.

**ALLOTMENT OF SHARES AND REGISTRATION.**—All parties to whom shares shall have been allotted, should sign the deed within a certain time, or forfeit irrevocably their deposit; and so soon as they shall have signed the deed, they should be registered, and no transfer, from hand to hand, and without deed, should be permitted.

**DIRECTION.**—So soon as two-thirds of the share capital shall have been allotted, and the parties registered, a meeting of the shareholders should be called, at which meeting those present should elect (from among the provisional committee or otherwise, as they may see fit) a certain number to form the direction, and fix also the allowance to be made for their services.

As a general rule, the number of directors should be twelve, divided into four committees (as already named) of three members each. Where the railway is comparatively unimportant in length, capital, &c., six members might be sufficient, each division of three members taking charge in such case of two committees; in others there might be nine members, or three divisions of three.

In branch lines connected with a main line, there might be an additional three members, or double number of three (according to its importance), to take charge of it during construction, after which it would be for the shareholders to determine whether they deemed it advisable to retain their services with respect to such branch, or if not, whether some among them, of whose valuable services they had had satisfactory proofs, should be appointed to vacancies in the direction of the main line.

But in whatever way the arrangements may be determined, the following rules of guidance, I consider, all-important:—

To equalize the number of directors on each committee; and except where, from the smallness of the undertaking, two committees are thrown into one, to allow on no account any *one* member to act upon more than *one* committee. To require the names of the members and acting chairman of each committee, to be set forth at the beginning of every director's report to the shareholders, and, so far as can be, all reports to indicate the committee from which it, or any portion of it, emanated; and, where it can be done, to be signed by such committee.

[Cases may arise, but they will be very seldom, where an *extraordinary* committee may be required for some special object, and it should, when this occurs, be formed of *one* member from each of the other committees; and if the duties which devolve upon such committee are likely to assume a definite character, and to last for any length of time, the names of the members of such committee should be published; and it would then be a matter for the shareholders to determine whether, as in the case of branch lines, an additional triad of members should be added to the direction, to make it a distinct committee.]

Shareholders should further make it a regulation to have stated to

them periodically the existing engagements, as *railway directors*, of all persons whose names are presented to them for the honour of representing the company. There are those who follow directorship as a profession, realizing thereby a large income from a very small capital, without any other risk than pertains, in a proportionate degree, to every shareholder. Take, for instance, the case of a main line with its score of branches. The ordinary holding on the main line in most cases forms all the qualification required, and a capital of £1000, judiciously invested by a *professional* director, may return an annual income of the whole amount, in addition to the ordinary returns (to directors as well as others) from the undertaking itself.

The following, which is extracted from the "*Railway Record*" of the 23rd December last, is a case in point :—

"The London and North-Western Directors are forty-five in number, and are allowed £100 per annum each. In addition to this, they are allowed travelling expenses: these expenses, on an average, amount to another £100 a-year each. The board is composed of eighteen members, who were, at the amalgamation of the companies, chosen out of the forty-five. These eighteen members are chiefly members also of the committees of the branch lines; and as there are fifteen of such branches, and as the members are paid each £100 per annum for their attendance at these meetings, and also their travelling expenses, and further, as SOME OF SUCH MEMBERS ARE ON NEARLY THE WHOLE OF SUCH FIFTEEN COMMITTEES, they, of course, are in the *enjoyment of enormous salaries*. For the past six months a committee of investigation has been visiting various parts of the line for the purpose of reducing the working expenses. This committee is composed of ten members, SEVEN OF WHOM are deriving from the company no less a sum in the aggregate than *six thousand five hundred pounds per annum*. The chairman of the committee has nearly £2,000, and his son about £1,500 a-year! The expense of each meeting of this investigation committee is about £15, as they are allowed 15s. per day travelling expenses. It was through the meddling of this committee that the cause of the recent strike of the engine-drivers arose, by which the company lost nearly £20,000." This is a case of "going into the director-line" with a vengeance.

Again, shareholders should, under no consideration whatever, sanction that very incongruous sort of appointment,—a resident or managing director. Setting aside the total disregard of all fine feeling on the part of any one accepting such an appointment, and the interference it is certain to cause with the duties of the chief officers, the PENSION itself would be far more beneficially employed if divided among the general body of directors, giving, as it most probably would, £100 to each chairman of committee, and £75 to each of the other members.

The *experience* the aspirant possesses of railway business is generally made the pretext for this recommendation (as though he alone, of all the directors, possessed this qualification.) But admitting the experience for the nonce, let it be paid for either as a director's experience is paid for, or as an officers, and take rank accordingly ; but it is rather too much to pay a man extravagantly, and put him in the position to dictate to the officers out of doors, and to the directors in-doors ; it is too anomalous a commixture of the honorary and the mercenary—the master and the servant.

But this vaunted “experience” is sometimes but another name for “influence,”—or a plea put forth to obtain a sop for some intractable (to put it mildly,) individual *pour l'adoucir*.

A fair amount of common sense, and some commercial knowledge (gentlemanly feelings we expect of course,) are all the requisites for a director ; and with these qualifications, a director of “experience” may be made in a month, and he would have several advantages over your “professors.” He would have no old crotchets to unlearn—no cause of jealousy of the (*other*) officers—no motive for seeking to disgust them and get rid of them, because (with their eyes fully open to the delusion,) they decline to “humble themselves before the brazen image that has been set up.”

The principal officers of the company, if not appointed by the shareholders, should be approved by them, as should also their salary ; and any change that may take place in any half-year should be brought under notice at the next succeeding meeting.

2. AFTER ACT HAS BEEN OBTAINED.—So soon as the act of incorporation shall have been obtained, the shareholders should be immediately called together. At that meeting the whole number

of directors, and at all future first ordinary meetings in each year, one-third of the number of directors, (viz., one from each committee,) should go out of office, but be re-eligible; and at each such meeting their remuneration should be re-fixed. All directors continued in office should remain upon the same committee as they were previously, unless otherwise sanctioned or requested by the shareholders.

At all general meetings the names of the directors, divided into committees, and distinguishing the chairman, together with the names of the chief officers, should be set forth at the top of the report.

At the first general meeting after the passing of the act, the parliamentary and finance committee should lay before the shareholders a printed statement of the time at which they estimate the several calls, to the extent of one-half the capital, will require to be made, with the respective amount per share of each call; and this statement should be continued at all future half-yearly meetings, revising it where necessary, and adding thereto further calls in the place of those written off, so as to keep the return up to one-half of the share capital, until it includes the final call.

At all general meetings the respective committees should REPEAT IN WRITING, *signed by themselves and officers*, whether anything has occurred to cause them to change their opinion, relative to the sufficiency or otherwise of the estimates, or portion of the estimates. (either as respects the capital required, the future traffic, or the working charges,) and if so, the extent and cause of the same should be fully specified; and at all meetings the original estimate, and the last revision of the same (if any), should be set forth with the accounts.

With these regulations carried out, we should get rid of the multitude of "unreal mockeries" which shed their *ignis fatuus* light more or less strongly through most of the railway reports, after this fashion:—

No. 1. "From the recent additional survey of the line, and a revision of the estimates of their eminent engineer, the directors have every assurance that the works may be completed considerably within the first estimated cost."

No. 2. "The directors are gratified to inform you, that the contracts have been let considerably within the engineer's estimate."



No. 3. (This is after the "estimates of their eminent engineer," have been found some thirty or forty per cent. below the mark, when the directors (who are invariably made his stalking-horse,) having to administer the nauseous pill, generally accompany it by some palliative of this kind.) "The directors are happy to assure you, that the information which they have acquired in the course of their labours has tended to the conclusion that the traffic will be considerably in excess of their original expectations."

3. OPENING OF THE RAILWAY FOR TRAFFIC.--On the opening of the railway for traffic, the committees should remain constituted as before with respect to their members, but with certain modifications and additions in their duties. Thus—

The LAND COMMITTEE, should be also an ESTATE COMMITTEE, and have under their management all land, houses &c. belonging to the company, and the adjustment of the rents.

The WORKS AND CARRYING STOCK COMMITTEE should see to the maintenance of the road and stock.

The TRAFFIC COMMITTEE would have cognizance of everything connected with fares and number of trains.

The PARLIAMENTARY AND FINANCE COMMITTEE should be transformed into an ESTABLISHMENT COMMITTEE—to embrace everything connected with the duties of the servants towards the company, and of the company towards their servants.

The chairman of each of the several committees, (together with the chairman and deputy chairman of the board, if not otherwise chairmen of committees) would form a finance committee. They would also, *before* as well as *after* the opening of the line, form an occasional committee for conference and arrangement upon any moot points which affect more than one committee, so as to combine the separate workings in one harmonious whole,—in which state it will be presentable to the general board.

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Having thus traced the progressive steps of a new undertaking, it will be hardly necessary to point out their equal applicability to all others whatever intermediate stage they may have arrived at. The division into committees, for instance, can be commenced at any

time;—so can the publication of the names of the members of those committees, and of the principal officers;—the directors of branch lines may be reduced in number,—and £900 out of every £1200 per annum now shared by them, with the travelling expenses, may go to form the nucleus of a superannuation fund. Of lines in progress, estimates in proper detail, and in which the engineer's reputation is involved, may be set before the shareholders and the railway public. Of lines opened for traffic, a similar detailed estimate may be furnished of the further amount absolutely necessary to be expended; and at that sum, if approved by the shareholders, capital account may at once be clinched. Detailed inventories and estimates of rails, sleepers, engines, carriages, and all deteriorating appointments of a railway may be made, and working charges may be all fixed upon some regular and universal system. The one grand point, however, is to make directors act personally a little more before the shareholders, and a little less behind the scenes, than they have been in the habit of doing, and greater satisfaction will, in very many cases, result to the public, the company, and the company's servants.

At general meetings, too, with this system of management in operation, shareholders will know to whom to look for any information they may require;—now the chairman of directors is expected to know everything, and acting as the mouth-piece of the entire body, to explain everything. Sometimes the question may refer to some part of the service in which he does not take an active part, and his reply may be vague, whereas from another member of the board, more conversant with that particular subject, it might be perfectly clear and satisfactory. Sometimes, too, he has to extenuate some blunder, or justify some harsh proceeding, to which at the time he had been wholly opposed, while during his performance of this ungracious task, the real perpetrator of the misdeeds is sitting quite demurely in all the comfort of conscious security which his incognito affords, and glancing, possibly, very complaisantly, at the interrogator over his spectacles. Chairman, directors as a body, and shareholders, are all equally while this individual freedom from responsibility exists, in a false position; and if only to correct this, the changes proposed would be of important service.

## FARES AND ARRANGEMENTS CONNECTED WITH PASSENGER TRAFFIC.

ALMOST every railway has some special circumstance of its own, which has to be considered in the regulation of its fares and trains; their main features are, however, the same, and it is with them only that I pretend to deal.

In doing so, I shall endeavour,—to clear up a misconception which appears to exist to some considerable extent, that the charge upon one description of traffic should form an element in fixing the charge upon another traffic of totally different character; and that according as they approach or recede from this mode of regulating them, the greater or less is the judgment of the manager, and the profit to the company;—to clear up a similar misconception with respect to the wear and tear produced by speed *per se*, and its bearing upon express trains;—and to explain my own views on the mode of adjusting trains with fares, and fares with trains.

A large portion of the cost which attends the working of a railway, is altogether irrespective of the traffic conveyed. The railway has to be maintained in a secure and perfect state, whether the trains be many or few; a proper staff has in like manner to be provided to assure the security of the several parts of the line, and a further staff to take the tolls or fares. These respective items of cost attach, up to a certain point, to all railways, without any reference whatever to the amount of traffic, as completely and decidedly so, as the interest on the money borrowed for its construction.

If the railway company provide the motive and carrying power, they must do so upon a scale sufficiently liberal to meet the *probable* requirements, leaving it to the future to show how far that probability corresponds with the expectations formed. There must be a sufficiency of men to clean and make up the trains of carriages, and to assist with the (anticipated) luggage. It is not till

the trains amount to or exceed, say half-a-dozen outwards, and the same number inwards, that the charges for porters, &c., for these duties, can be considered to be affected by the traffic.

The more immediate fluctuating charge, or that *specially incurred* for the traffic, is in the trains themselves. The cost of a train varies in the slightest possible degree, whether it has a full complement of passengers, or a bare half-dozen.

The running cost of a passenger train, including all its concomitant charges, would be fully covered on any of the existing railways, by 1s. 6d. a mile. Anything conveyed, therefore, that assists, in however slight a degree, in the payment of this 1s. 6d., is *pro tanto* an advantage. If, for instance, a train was deficient of any number of persons to form a full load, and that deficiency could be supplied by passengers (or anything occupying an equal space in the train), at a fare of 1s. per 100 miles conveyed, it could not certainly be said with truth, that the company were conveying those passengers or articles at a loss; on the contrary, they would be virtually all profit. All that could be said, would be, that the company were not deriving therefrom, (for that is the grand point!!) **THAT AMOUNT OF PROFIT THAT THEY MIGHT HAVE DONE**; and even that assertion could not be strictly made without an accurate knowledge of the circumstances of the case, that is, whether it was a mere matter of conveyance at that price or not at all.

The point to arrive at in fixing charges for traffic of whatever nature, is that fare or rate which shall combine in the greatest degree, satisfaction to the public, and profit (in the *aggregate*) to the company. The nearer the approximation to this desideratum, the more swimmingly will the traffic progress to its full development. It matters not a jot to the shareholders whether the comparative cost in proportion to gross receipts is more or less, so that the net profits are the most. Take the case of passenger rates—the first point is to settle the fare of **ONE CLASS**, and that (the third,) parliament itself has already done for the companies. All the rest must be comparative, without weighing with too great nicety, the relative cost of transport and other charges. In a theatre or other place of exhibition, managers do not in determining the prices to the different parts of the house, take into account either their respective cost of construction, or that those in the

gallery and pit are partaking of the same performance as those in the stalls and boxes ; they do not entertain the absurd project of having distinct performances for gallery folks, and for them only—another for pit, and so on (as some have proposed with regard to passengers, by having separate and distinct trains for each respective class); but they seek to regulate their performance to the satisfaction of the greatest number, and their prices to their several classes of patrons, so that each class may take their place in their own proper sphere, satisfied with the manner in which the value of relative accommodation and selectness have been estimated and apportioned.

On the railway we have as many sorts of trains as we have of theatres, and we charge a first class at the minor performance, the same as at any other, except the express (the opera), and the consequence is, a beggarly account of empty boxes in that part of the train.

In judging of *comparative* profits, we may consider the cost of conveyance per passenger, to average about 3-16ths of a penny per mile, and hence that rate of fare (assuming that there was only one) should in the abstract, be the most profitable, which by multiplying the comparative number estimated to be obtained at such class of fare by the amount of the fare less 3-16ths of a penny, per mile, would leave the largest balance. Thus, *cæteris paribus*, the profits would be very nearly the same from the conveyance of

15,000 passengers at 1d. per mile.			
9,286	„	„ 1½d.	„
or 6,724	„	„ 2d.	„

But let it be borne in mind, that no one fixed fare would be suitable to all classes of passengers, and a high fare (speaking comparatively) for some is just as necessary as a low fare for others. The starting or minimum fare should be a moderate one ; if too high, it will discourage travelling ; if too low, it will increase it without much increase of profit ; and upon the whole, I am induced to believe that the fare fixed by government for third class passengers, is just that sum that the company's own policy would, in the generality of cases, have led them to adopt, had they been untrammelled in the matter.

Of the proportion of working charges to receipts, to which I have alluded *en passant*, I shall have hereafter to speak more particularly. My business just now has been to show that the expenses specially pertaining to the conveyance of any particular traffic is in reality very trifling, and that able management consists in so regulating fares and trains, as to realize the largest amount of nett receipt (that is, beyond the actual cost) without reference to whether the proportion of working charges be thirty per cent., or ninety per cent., and that the fare or fares that produce this result, may as a general rule, be set down as those which consult in the most equal degree the two interests—that of the public and the railway company.

Of late, since dividends have been upon the wane, murmurs have in many instances been raised by shareholders, and invidious comparisons made of the difference of the treatment to the public in fares and service upon the old and present mode of travelling, and that so regarded, the company are not adequately remunerated. Such murmurs and comparisons are absurd. If all legislative enactments with respect to fares were to be set aside to-morrow, it is doubtful whether a single railway company would improve its revenue by stepping beyond the pale which at present confines them. They might, by acting on some crotchet of a manager or managing director, seriously affect the public good, but without any benefit to themselves. The public, as a body, will always set their own value upon an article, and take it if they approve the price, if not, leave it. A Manchester manufacturer, or any other (even the parties who supply the company with coke or iron), may with equal reason, refer to the olden times before the invention of steam engines and spinning machines, make comparisons of charges then and now, and grumble that the present prices do not now at all approach those of the old. The public reap the benefit of these inventions in the price, and the purveyors in the quantity of the articles supplied. Ordinarily, it is not possible to raise the one to any extent without depressing the other.

**WEAR AND TEAR PRODUCED BY SPEED.—EXPRESS TRAINS.—HEAVY ENGINES.**—A serious error has, I consider, been committed, in the introduction during the last two or three years, of enormously heavy engines to impel the express, or indeed, any

trains, crushing up the old rails which were never intended for any such weight, and causing the line to be re-laid with others very much more heavy and expensive, and breaking, or threatening to break down, some of the bridges. Hence it has become a matter of very uncomfortable doubt with shareholders whether, not merely heavy engines but express trains (for speed seems to be generally considered inseparable from weight), whether the express trains are not entailing a very heavy loss upon the company in several ways, in the destruction of the rails,—in the extra cost of maintaining of the roadway itself in proper order,—and in the increased consumption of fuel by, and wear and tear of, the engine itself.

The opinions which I entertain on this subject, and which I shall endeavour to set forth, are—That increased weight of engines—that is, beyond thirteen-inch, or at most fourteen inch cylinders—have, generally speaking, been unnecessary and inexpedient for the express trains; that engines of the size above-mentioned are sufficient to draw trains of the ordinary size, viz., ten to twelve passenger carriages, besides a guard's box and luggage van, at the speed at which the express trains are now running: that the lighter engine, with the evaporating power proportioned to the size of cylinder (in other words, competent to supply the same number of cylinders of steam as in the larger engine), has, in very many respects, an advantage over the heavier engine, and that the difference in time of performing a journey between the express and ordinary trains, is considerably more consequent upon few stoppages and long continuous runs, than upon any other cause. The increase in size should have been confined to the tender.

That if the railroad is in a good solid condition, and the joints of the rails as close as is admissible, and kept true to each other, their wear and tear is no more from a rapid, than a slow rate of speed; horizontally, or on the surface, it is of the two rather less, as the effect of gravity will be to a certain extent counteracted by momentum; laterally, it may be, perhaps, rather more, but inasmuch as the rails are stronger in proportion to their duty laterally, than horizontally, that is rendered of little consequence.

If, however, the roadway is not properly consolidated, or from not being carefully attended to, gets into bad condition, with the joints of the rails up and down, or in and out, then there will be unquestionably a series of destructive collisions, injurious alike to rails and

engines,—but the fault in such case is not in the speed of the engine, but lies either at the door of the engineer, who has the charge of the maintenance of the roadway, or is a part of that admirable **ECONOMY OF MANAGEMENT** which employs two men at three-quarter wages to do the work of three or more at proper pay.

I shall not then hesitate to state it as my opinion, that engineers acted, either with great ignorance or great injustice to the shareholders in causing the introduction of the heavy class of engines; the question was not simply as to whether or not lighter engines could do the desired work, but whether the heavier engines did not involve the risk of the rapid destruction of rails which had cost £2,000 a mile, or possibly more, and towards the renewal of which not a single halfpenny had been funded,

The rails originally laid down on our principal lines were for engines certainly not exceeding twelve tons: now they have attained to double, and even treble, that weight. Either, then, there was ignorance displayed by engineers in unnecessary weight of rail in the first instance, or if not so, then injustice must have been since done in their having (for the purpose of effecting an object more of personal interest to themselves, than anything else, that is, of displaying on the one hand, or disproving on the other, the superiority of one gauge over the other) advised, or even not having protested against, both with respect to expense and safety, double and originally treble the weight being carried over the rails than they had been calculated for.

Omitting the question of the bridges being competent to carry this unanticipated great weight, and still confining my remarks to the permanent way, I may observe that every unnecessary pound in weight of the rails per yard (either at first or now), makes a difference of £30 a mile or thereabouts in the cost of construction; and as with rails properly proportioned to the weight to be sustained by them, time is considered to have quite as much effect in their deterioration as load, it may be fairly reckoned that interest and renewal together will approximate the extra and wasteful cost of construction to £60 per mile. Calculated in this way, the difference between 65 lbs. and 90 lbs. rails (and the difference should be, if it were possible to roll such rails, between 65 lbs. and 150 lbs., according to the difference in weight of the engine), but taken at an increase of cost from 65 lbs. to 90 lbs.—would represent a sum of £1,500



per mile,—a sum that would purchase a complete working stock of engines and carriages sufficient for almost any extent of traffic.

And now with respect to the running charges, and injury to the engine itself consequent upon speed—there may be, and I think it not unlikely that there is, some little increase in the consumption of coke, and also in the wear and tear, from this cause—the quicker the speed, the quicker the chimney is emptied of its contents, and the quicker, consequently, is the fresh supply of air licked through the boiler, carrying away with it more of the caloric with which it is saturated than it would have done had all the processes been slower; the increased intensity of combustion and cinder friction will also, no doubt, leave its mark upon the firebox and tubes. But what are these after all? the unserviceable caloric will probably amount to little, if any, more than what blows off in waste steam from those engines that stop at every station; and the extra wear and tear of the tubes and firebox is at most but a transfer of similar extent of injury to the engines which the slow trains, by their frequent stoppages, inflict upon the rails.

If we refer to the accounts of the railway companies themselves, they will be found, if they are to be depended upon, to bear out the supposition that no *very serious* increased cost in the item of locomotive power has been consequent upon the running of express trains, especially when we take into account the monster engines that have in most cases been used for the purpose. The total cost of locomotive power on the London and North-Western Railway Company's line, for the twelve months ended 30th June last, is shown by the accounts to have been £251,000; the mileage of the engines, the manager informs us, in his pamphlet on railway management, was 6,846,127 miles, being only about 8½d. per mile run; there is not much margin there for additional cost of express or any other trains, either in coke or wear. The London and South-Western Company, as near as I can collect from their accounts, have reduced the cost of coke from 4·759d. per mile, which was its cost during the twelve months ended 30th June, 1845, to 3·664d. per mile during the twelve months ended 30th June, 1848 (and there is no reason to suppose that coke was at all cheaper in the latter period); and the repairs which appear to have amounted to about 4·335d. per mile during the former period, were reduced to 1·923d. per mile in the latter period.

But even if the additional running cost of the express trains could be clearly shown as very considerable,—to be, instead of 9*d.*, as much as 1*s.* 6*d.* a mile (I speak only of the engines), they would well repay their continuance. (Of the profits I shall speak by and bye.) Speed, it need hardly be said, is very generally appreciated: as it originally gave a preference to the rail over the turnpike road, and most wonderfully increased locomotion because it doubled the pace, so is a still further effect in the same direction likely to be produced by quadrupling the pace—always supposing that the directors have not, or do not, put too high a price upon it.

With respect to heavy and light engines regarded *per se*, and without reference to the rails, I may remark, that the former have, in my opinion, many drawbacks; their own immense weight and that of their tender cause them to require much longer time to get up and to slacken speed, present serious obstacles to their climbing up hill, and renders more than ordinary caution and care necessary on the part of the driver to control them in going down hill (their greater surface also opposes a greater resistance to the atmosphere); in short, it would appear that it is only on a level that any advantage worth speaking of is obtained by them, and that there it is altogether disproportionate to the difference of size and cost.

And I may here further observe that, in my opinion, it is far better to make arrangements for running moderate sized passenger trains than monster ones; the utmost that can be saved in the latter case is in the staff of drivers and firemen, while in the former case, the trains can be better regulated to the demand, the loads better averaged, the facility to the public for locomotion increased in number, the required station room less, the staff of clerks and porters less, the confusion less.

From the one extreme, the proposition now is to run to the other: it is suggested to employ as many different sizes of engines as there are branch lines of varying traffic; engine and carriage for all classes are to be combined on one frame, so that the passengers must regulate not only their numbers but their proportions of each class, to the accommodation, instead of, as has hitherto been done, the accommodation being regulated by the number of passengers.

**THE GAUGES.**—It is not my intention to go into the gauge ques-

tion, or attempt a disquisition concerning the merits of the one or other, further than to observe, that at high speed, *particularly with heavy engines*, the continuous bearing and shape of rail used on the broad guage lines, which allow the engine to bear on the entire depth of the rail, and the rail itself to be supported throughout its entire length, do certainly appear very preferable to the plan commonly adopted on narrow guage lines, of forming the rail with a flange or offshoot from the stem, which flange takes the chief weight of the engine, and the rails themselves are supported only at occasional distances, allowing them, especially when their strength is not proportionate to the increased weight of the engines (as is now but too generally the case), to deflect, thereby throwing the end of one rail above the other, and forming the rails themselves into a series of self-forming gradients, and so doing away, in a great measure, with an advantage, which has been sought at the expense of millions of pounds,—good gradients.

If there be any truth in the allegation, that on narrow guage lines long trains (and hence powerful and heavy engines) are indispensable to insure steadiness at high rates of speed, while it is not so necessary on the broad guage, this would be unquestionably a strong point in favour of the broad guage. For my own part, I should be disposed to consider, without absolute proof to the contrary, that good and firm coupling of the train, though not a long one, every thing else being in good order, would be quite sufficient to insure the requisite steadiness.

As to the engineers who have been the chief actors in the guage contest, the one appears to have adopted the narrow guage because it was old, and the other the broad because it was new;—and all the fuss about the two guages has had, “competition” or “no-competition” in a more or less degree at the bottom of it. Considered with reference to that question, I can only say that I think it a pity that we have not a greater number of different guages.

To the broad guage, and the anxiety on the part of its promoter to show that its extra cost was not altogether thrown away, but had given it a superiority over the narrow gauge,—and a like anxiety of the narrow guage party to confute such pretensions—we are indebted for express trains, and a most important boon to the public they are; and (within proper bounds) promising to be an equal benefit to railway companies, and making it their policy to carry them out

to the fullest extent that engines of a weight within the capacity of the rails to bear, will admit of.

**TRAINS AND FARES**—To assist me in explaining my proposed systems of trains and fares, I will take for my illustration a railway of say 100 miles in length. I should have four descriptions of trains, an equal number of each running consecutively, until any one, two, or three among them, were found to receive a preference from the public, when a modification of the numbers might be made.

A certain number of trains should (after the public requirements had become understood) be fixed for a constancy,—others should vary (but on some defined and publicly understood plan,) with the varying season of the year and relative travelling, thereby rendering the continual alteration of train bills unnecessary.

The speed and fares, and other regulations should be as follows:—

Note—The stoppages at Stations to be only in case there be Passengers to set down or take up.	STOPPAGES AT STATIONS.	Time of per- forming journey HOURS	Rate of speed from beginning to end of journey MILES.	FARES.					
				PER MILE.			PER JOURNEY.		
				1st.	2nd.	3rd.	1st.	2nd.	3rd.
1st, 2nd, and 3rd Class } Parliamentary . . . . . }	Every Station . . . .	5	20	1	1½	1½	8	4	11
1st, 2nd, and 3rd Class, } not Parliamentary. . . . }	Alternate Stations.	4	25	1½	1½	2	11	1	13
1st and 2nd Class . . . . .	Every 20 Miles . . . .	3½	30	—	2	2½	—	16	8
1st and 2nd Class . . . . .	Every 50 Miles . . . .	2½	40	—	2½	3	—	19	5

Day Tickets to be calculated at a fare and a half.  
 Weekly ditto as 5 days, at a fare and a half.  
 Monthly ditto 20 days, ditto  
 3 Monthly ditto 55 days, ditto  
 6 Monthly ditto 100 days, ditto  
 9 Monthly ditto 135 days, ditto  
 Yearly ditto 160 days, ditto

The calculation to be made upon any of the foregoing fares that the party may desire, and such ticket to allow him to pass by any class carriage in any train, the fare whereof is not in excess of that upon which the calculation was made.

It may be observed, with respect to the difference of speed, or rather time in which the journey is performed throughout, by the different descriptions of trains, that after allowing for the stoppages and the getting up and slackening speed, and omitting them from the calculation, the average travelling speed at other times may be estimated to be—

The 20 mile train at the rate of $28\frac{1}{2}$ miles per hour					
„	25	do.	„	$30\frac{1}{2}$	do.
„	30	do.	„	$34\frac{1}{2}$	do.
„	40	do.	„	42	do.

and when we consider the extra obstacles, which gradients present to continually stopping trains arising from the small comparative aid they receive from momentum, the difference of picked engines and drivers, and the better management of the engine which a long run affords, the difference of speed can be very well accounted for, even without any difference in the size of the driving wheels, or number of carriages attached to the engine.

With respect to the fares, my object has been to so graduate them in accordance with the comparative value set upon the service by the public, as to avoid the present inconsistency, already alluded to, of charging a person to travel in a first class carriage by a third class train, the same as to travel by any of the quicker trains (the express excepted). This disproportion of fares to circumstances, has, I have no doubt, been the means of converting many otherwise first class passengers into second, and second into third. What I aim at is a reversal of this state of things, and to induce the movement in the contrary direction, upwards instead of downwards. And I conclude by asserting, without fear of being confuted, that taking the increase of passengers' fare and service performed into account (upon the scale I have proposed), the difference of cost to the company of each description of trains is so trifling, as to leave at least ninety per cent of every addition of fare between one class of passenger, and one class of train, and another, PROFIT. All classes must be provided for, but the comparative commercial value of each individual traveller to the company is as nearly as possible in the ratio of the fare which each pays.

## GOODS TRAFFIC.

I HAVE already referred to the smallness of the cost which is directly entailed in drawing a load, and that all beyond that, and the station expenses which that load itself has engendered, that is, that would not otherwise have been incurred, is to that extent profit.

But it does not by any means follow that the carrying arrangements are good on that account ; it may be, that the interest on the outlay to procure that traffic exceeds the difference between the carrying charge and expenses ; in which case, though the train itself shews a profit *per se*, the company are in a worse position than if they had never meddled with it. This was the point to have been properly considered before the outlay was incurred—once done, it is not to be undone—and all that remains is, to make the best of an injudicious bargain. Loss is unquestionably written upon the traffic, if not on the trucks.

Again—there may be a profit upon the traffic, that is, an excess beyond both the haulage charge and the interest on the outlay of capital to which it has given rise ; but the profit may not be of that amount that it might have been—that the traffic might fairly return, —a just sum for the one party to pay, and for the other (the company) to receive. The difference between these sums is so far actual loss, as that it is a sum intercepted from the company's coffers by injudicious management.

The undue reduction of charges by a railway company for the purpose of competition, is useless, and being so, is neither more nor less than throwing away so much profit. One can understand individual purses competing for the mastery, the longest purse in such case generally gaining the day, if prudence has not, before that end is accomplished, pointed out the folly of throwing away money to ruin one competitor, with the chance of another afterwards starting up to take his place. As for the competition between collective purses of equal calibre, by a reduction of fares, it is a *furor* of which the managers enjoy all the excitement, the shareholders all the depression, which is sure to attend it. The fares of the two competitors are certain, whether high or low, to be fixed relatively

to each other, according to the value of their respective commodities—one offers some advantage over its rival as to time, and the other *balances* that advantage by price. These once adjusted, will, as a general principle, remain relatively the same, and the one cannot be reduced or altered in any way without an immediate reduction or alteration of similar kind in the other.

Take a canal for example. Is it likely that a canal company would be very easily placed *hors de combat* by competition on the part of a railway company or railway manager, even though the railway has its passenger traffic to back it? Is it not more likely to have the effect of inspiring them with some plan for contesting with them, and damaging their passenger monopoly, which would otherwise never have entered their heads? A tame submission to annihilation is not very usual even among individuals, but still less likely when the cost of the contest is a divided one; one move has already been made by canal companies in a right direction, by which they have bettered their means of waging the contest. Other schemes, perhaps more desperate, and more likely on that account to be more injurious to their opponents, will be brought into operation before they will cry "enough;" and even if they should eventually do so, the losses sustained by the railway company in the contest would perhaps never afterwards be repaid, and even if they were, it would be only to benefit, for the most part, a new race of shareholders.

But before this point of withdrawal would be reached, even if it ever could be, the railway companies or managers will probably have repented of their folly, and gone back to the proper fares; or the directors, heart-sick and sorry at the results of the contest, will have adopted the ordinary course under similar circumstances in railway cases, that is, after fighting till both are cripples, and buying over allies, in the shape of branches, on most ruinous terms, propose a union of battered hulks. Better by far not to *provoke* a quarrel than to have to make it up afterwards.

A canal, be it observed, like a railway, has the bulk of its charges fixed; and if kept open at all, as it must be for its local traffic which has no other means of conveyance, the further charges (dependent upon the competition) are comparatively trifling.

[The remarks just made are for the most part equally applicable to competition of railway with railway, as of railway with canal—London and North-Western, for instance, with Eastern Counties,

&c. If there must, unfortunately, be competition, let it be confined as much as possible to the superior mode of doing the business, but let it not descend to the silly reduction of rates.]

The next point to which I shall advert is, to the system adopted by the large railway companies of becoming general, instead of railway carriers only; that is, instead of restricting their operations to the conveyance of goods between station and station on their own railway, as they did formerly, they now undertake the business of collection and delivery, either by themselves or agents, remorselessly sacrificing private interests without the slightest public good, or their own self-profit, or advantage. What the larger companies do, the smaller or tributary streams are of necessity constrained to follow, and hence it has become general.

Mr. Whitehead, in the first of his pamphlets on *Railway Management*, thus clearly states the case with respect to the London and North-Western Railway Company.

“The system adopted by the London and Birmingham Company was the open one of allowing all carriers to use the line. The railway company stipulated that they should supply the locomotive power at agreed rates, and that for the use of the road certain tolls should be levied. These constituted the whole and sole account between the company and the carriers. The latter collected and delivered the goods, took all risks upon themselves, and provided they paid to the railway company its dues, every needful facility was given to them to carry on their business. The tolls and haulage rate were so regulated, that whilst on the one hand they contributed a handsome profit to the railway exchequer, they were on the other sufficiently reasonable to allow the carriers to conduct their business to a profit. In this there was mutuality—an essential ingredient in all business arrangements. The competition amongst the carriers was the security which the public had against unfair charges.

The Grand Junction Railway Company's system, on the contrary, was of a close and exclusive character. They could not prevent carriers using their line—it was the queen's highway—but wishing really to force strangers from it, and secure their trade to themselves, they refused those facilities which were necessary to their business, owing to which, and to impediments they found at every grand junction point, Messrs. Pickford and Co., for a very considerable period, carried all their goods to Manchester around by Leeds. To secure that monopoly of the goods trade which they were so eager at all risks to obtain, the Grand Junction Railway Company became carriers themselves, and established agencies at every point whence they thought traffic could be obtained. They would, however, it is believed, have utterly failed in this, their labour by day and dream by night, but for the amalgamation which took place between that Company and the London and Birmingham.

“The open system pursued by the London and Birmingham Company ceased with the existence of that line as a separate undertaking, and when the formal



amalgamation took place, the London and North-Western Company adopted the close and exclusive plan of the Grand Junction Company.

"The carriers seeing that nothing short of ruin, or an eternal litigation to maintain their rights was now intended, gave up the unequal contest, and that for which the Grand Junction Company had risked everything (a monopoly of the goods trade,) seemed within the easy grasp of their gigantic absorber."

Thus speaks Mr. Whitehead ; but he omits to mention the preparatory step of making terms with Chaplin and Co., the former agents of the Grand Junction Company, (and originally set up by them in that branch of trade as a foil to Pickford and Co.) and also with Pickford and Co. themselves, who were rather too formidable to be made enemies of, as the Grand Junction had already had practical proof. *Parcere superbis et debellare subjectos*, is railway diplomacy. The little carriers—the very men who had been most valuable to the railway companies, because they could, and did until then, compete most beneficially both for the public and the company, with the larger ones for collection of goods, were now precluded from using the railway, and many of them became virtually exterminated.

The railway companies were now to go on swimmingly. Pickford—the great Pickford's canal business was to be given up—their own business, and the canal business, and *what had been the carriers profit*, were all to swell the railway profits. Not so, however, observes Mr. Whitehead, from whom we shall again quote.

"The canal companies having had a foretaste of what was in store for them, applied to and obtained permission from Parliament to become carriers on their own account—a privilege which up to that time they had not possessed. The result has been that the Grand Junction Canal Company, to preserve itself from destruction, is competing for the goods traffic between London and the North at rates so low, that the railway company cannot venture to touch them, much less to drive the canal company as competitors from the field. When this unseemly strife will end no man can foresee. Life and death are in the balance so far as the canal company is concerned."

In this last paragraph I differ a little with Mr. Whitehead. The canal company have a business that the *railway* cannot touch, sufficient to pay its fixed expenses. The contest has not gone quite so far as to be a question of *profit or loss*, but of *amount of profit*. [Manchester goods must be carried under a penny a ton per mile before it comes to a matter of loss.] But how does Captain Huish, the manager of the London and North-Western Railway, and promoter of the Grand Junction system, reply to Mr. Whitehead? Thus—

"It is quite unnecessary to re-open the *vexatæ questio* of the 'carriers.' After many years of experience, that matter is settled by the almost universal fiat of railway boards; and there can scarcely be a stronger argument in favour of the soundness of the system than is to be found in the fact which, singularly enough, Mr. Whitehead adduces *against* it, that canal companies have been compelled to adopt it as their only means of maintaining any competition with railways at all. I pass by, therefore, the remarks on this head, only reminding you, that if, as Mr. Whitehead observes, 'the haulage rates' between Manchester and London 'were formerly so regulated, that whilst on the one hand they contributed a handsome profit to the railway exchequer, they were on the other sufficiently reasonable to allow the carriers to conduct their business to a profit,' the system must now work very profitably indeed, since the rates are the same, and the carrier's profit comes also 'into the company's exchequer.'"

Now to examine these points *seriatim*.

1. The almost *universal* fiat of railway boards, which has, according to Captain Huish, settled the carrying question, appears to amount to just this:—Previous to the amalgamation of the London and Birmingham and Grand Junction Companies, the two systems of "railway carriers" and "general carriers" were tried on various railways, one system on one, one on the other, according more to the whim and caprice of the person in authority, or some particular object to be served, than from any strong and sufficient reasons entertained, or at least published, upon the subject,—a misty sort of expectation of it adding to the profits. To some extent, perhaps, the desire of making a brilliant weekly return of traffic (for collection and delivery charges to the extent of about twenty-five per cent. of the whole takings for goods went in to swell the amount of the returns, and give it the appearance of a value which it did not possess), may have influenced some; at all events, there it was, uncertain from day to day what system would be finally resolved upon, but each day making it more and more evident that one uniform system, whichever it might be, must be shortly adopted. When, for instance, the Grand Junction Company, aiming, as Capt. Huish says, at the carriers', as well as the railway profits, threw obstacles in the way of Pickford and Co., and they, in consequence, were obliged to take their goods by another route, thereby causing them to travel over only a part instead of the whole of the London and Birmingham line, and in many cases depriving that line of traffic altogether, the London and Birmingham were being made the sufferers. When the two companies were amalgamated, it became, of course,

indispensable to act upon one plan; the northern section of directors carried *their* system, and "the almost universal fiat of railway boards" really dwindles into "the fiat of the directors of the northern section of the London and North-Western Railway." Their "almost universal fiat" others have bowed to; some from sheer compulsion, some from the high credit which attached to the old London and Birmingham board. I do not mean to say that none have acted upon, or been disposed to act upon, their own independent judgment in the matter, but "the *fiat*" (a very good term, by the bye) of a large railway company cannot be resisted with impunity by those connected with them, especially in a matter of this kind; as even the London and Birmingham had found, in the case of the Grand Junction and Pickford, which has been referred to.

2. The circumstance of the canal companies having been *compelled* to adopt the system to maintain competition with the railway, is no more a proof of the soundness of the system, than their forced resort on the same account to very low charges, shows the soundness of the system of very low charges. There is a proverb which makes some reference to the policy of "fighting a fool with fool's weapons;" but it does not, on that account, advocate the soundness of the system of "fighting with fool's weapons" as a general principle.

3. The statement, that certain rates are now the same as they were upon the old system, merely informs us that, so far, the public have not benefited by the change. As to Capt. Huish's remark, that the carriers' profits now comes also into the company's exchequer, rather over-estimates our credulity, and underrates the "knowingness" of their agents.

"The Sacristan, he says no word to indicate a doubt,

But he puts his thumb unto his nose, and he spreads his fingers out."

The agents, I will fully admit, might afford to do the collection and delivery at a price so far below that which it would cost the company to do it, as would leave them a very large profit; and that profit might really be as much as they were making when they were competing for the business with other carriers; but it does not follow that they do so, or that even if they did, that the carriers' profit goes into the company's exchequer. The agents

are tied to no price ; they have no interest in keeping down the price ; they make out an account of the cost, and it is paid. Who among the company's people knows whether it is right or wrong, high or low—the amount is paid, with a handsome per centage for the agency, and the REMAINDER!! of the carrier's profits goes into the company's exchequer. In fact, the London and North-Western company have gone only half-way in the matter, they cannot even now, be termed "general carriers" in the strict sense of the term ; all that they have really done is to throw over the little carriers, and transfer the business to two great ones, whom they secure from competition with each other, and risks of every sort and kind. There is no doubt that any two or more of the cab owners, who now have the privilege of the *entree* of the Euston station, or Chaplin and Horne themselves, would be glad to make an arrangement with the company on the same terms for the passenger delivery—be paid what they might be pleased to charge, and a per centage ! and the company might then have the cab owners' profits !

If there was one line of railway more than another that should have confined itself to what I may call the old London and Birmingham system, it was the London and North-Western. Some other lines might plead as an excuse that there were not carriers sufficient through the district of their railway to insure competition, but no such argument could with truth be urged with respect to this line, when carriers' profits it is well known, were reduced as low as they possibly could be. The consequence of the strong competition between the carriers led to this, that a constant customer, a wholesale warehouseman for instance, had his business done in many cases by the carriers at an almost nominal profit, the carrier's principal profit being derived from the private customers. His wholesale customers covered his cost, and his retail customer made his profits. A company cannot make these distinctions (at least, to any extent), if it would—if it does so, it must give itself up entirely into the hands of its agents—if it does not do so, then, either the company must be charging the warehouseman more than he has been hitherto paying, or their profits are in all probability seriously diminished. Companies' agents do not see any necessity to "work for nothing and find thread," we may feel quite assured.

The old London and Birmingham company, had, in my opinion, but two steps to make to render their system perfect,—the one was, to publish a maximum rate to the public for conveyance between railway station and station; the other was, a maximum rate including collection and delivery. Private and retail customers, would thereby have been protected; and competition among the carriers themselves would have insured the wholesale customer a minimum charge.

But what have the company gained by their present plan? Extra trouble, extra risk, on and off the railway; the risk of bad debts as regards their customers, the security of a *certain* profit to their agents, and of taking upon themselves the share of grumbling on the part of the public, which was formerly dispensed to the carriers, but which is always dealt forth with increased zest when a company is the recipient of the dispensation.

A large carrying establishment for collection and delivery, can be supported at very little if any, less proportionate expense than a moderately sized one; and hence, the latter kind of carriers were on a par, with the larger ones, as to the price at which they could transact the same business, and hence kept them in check. But with the one part of their business taken away, and with it the opportunity they had of regulating loads, they have pretty nearly disappeared altogether, and it is too late to recal them. They are much quicker unmade than remade, and with the uncertainty of a railway management continuing of the same mind for any length of time together, no one would be likely to re-enter into the business. The most that could be done would be to set the two agents competing, *if* it were possible.

But if the present system of the company cannot be put an end to, senseless competition, with canal on the one hand, or railway on the other, can, and the sooner it is done the better.

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With respect to the relative value of a passenger and merchandise train, at the same ratio of fares, high, moderate, or low,—that is, the passenger and the ton of goods at the same railway fare, exclusive of the cab to and from the station in the one case, or the collection and delivery in the other, there can be no question

as to which is, speaking generally, the best. The goods' wagons to passenger carriages may be estimated at two and a half to one; merchandize traffic fluctuates as much as passengers, with reference to period of years, and as to quantity moving in the two directions considerably more so. If passenger carriages are taken as only two-thirds full upon the average, the same or a less average load may be taken with respect to goods' trucks going and returning. Ten tons of goods may, therefore, be set against twenty passengers; and the rate charged per passenger, or per ton, for conveyance over the railway being the same, it is clear that the proceeds (from these data) would be from the goods' trains half that from the passenger trains—while the running cost to the company would be about the same.

The reply of Capt. Huish to Mr. Whitehead's pamphlet, furnishes us with one or two of those data for comparison, of which, unfortunately, railway accounts are generally so wanting. He informs us, that for the twelve months ended the 30th of June last, the traffic showed—

		Mileage of Train.	Rate per Mile.
Receipts from goods' trains ...	£722,376	2,626,049	5s. 6d.
“ Passenger trains	1,417,659	4,220,078	6 8½

Of the £1,417,659 by passenger trains, the passenger fares amounted to £1,235,672. Capt. Huish states, that 1½d. per mile per passenger is above an average; but for this to be the case, the third-class passengers, with their few opportunities of transit, must considerably exceed in number and mileage the first-class, which certainly seems contrary to fact; however, taking the average fare as 1½d., the whole value of the passenger trains, including all the traffic in addition to the passengers, only gives us an equivalent to fifty-four passengers per train, calculated upon the whole distance, the passengers themselves only averaging forty-seven: 5s. 6d. per mile for the goods' trains, at 1½d. per ton per mile, which Capt. Huish states is below the average, gives forty-four tons as the average load per train throughout. Neither of these averages surprise us by their magnitude,—say four passengers per carriage, and one and three-quarter tons of goods per wagon,—nor do they show much necessity for very heavy or powerful engines.

With these data of 5s. 6d. per mile, and 1½d. per ton per mile, the railway charge from London to Manchester would average 23s. 6d. per ton, and the gross receipts from the trains would amount to £51. 14s.

Following up the data gleaned from Capt. Huish's pamphlets, we find the working stock per goods' train exceeds very considerably that per passenger train—

144 locomotive engines are kept to run 2,626,049 miles with goods' trains.

268 locomotives engines are kept to run 4,220,078 miles with passenger trains.

The cost of the two stocks is as follow;—

	Engines.	Carriages.	Total.
Passenger traffic stock .....	£520,884	£335,425	£856,309
Goods „ .....	335,425	396,968	679,332

which, divided by the mileage above, will give 4s. per mile for the passenger, 5s. 3½d. (or more than thirty per cent. more) for the goods' trains.

The companies accounts present us with the following results:—

	Year 1846-7.	Year 1847-8.
Merchandize receipts .....	£584,912	£609,222
„ Charges (ex-locomotive power) .....	136,620	153,687
„ Remains .....	£448,292	£455,535
Compensation during same period .....	£7,961	£10,903
Passenger traffic .....	£1,417,839	£1,368,622
Goods, cattle and mineral .....	682,511	722,378
Total .....	£2,100,350	£2,091,000

Locomotive and carrying stock on 30th June, 1847... £1,330,481

„ „ „ 1848 ... 1,674,661

Being an increase in the last twelve months of..... 344,180

	31st Dec., 1847.	30th June, 1848.
Gross merchandize receipts .....	£389,073	£369,324
Agents charge .....	71,604	77,562
	<u>£317,479</u>	<u>£291,762</u>
Agents per centage of gross receipts...	<u>£18 8s.</u>	<u>£21.</u>

[I have no time, just now, to make an analysis that I should be satisfied with, of the goods traffic before and subsequent to the adoption of the Grand Junction system on the London and Birmingham line ; but I may possibly attempt this on some future day.]

## ECONOMY OF MANAGEMENT.—REDUCING WORKING EXPENSES.

**ECONOMY OF MANAGEMENT** is certainly very desirable, so far as the article is genuine; but the point to be looked to by shareholders is whether it is so or not. In many cases where it is taken credit for, contempt and censure would be the correctest and best mode of signifying appreciation of it.

1. A reduction of the per centage of working charges to receipts, arising from increased receipts, is not economy of management. It is a delusion.

2. A reduction of working charges by debiting capital with some part thereof, is not economy of management. It is an impropriety which brings with it its future punishment, certain and permanent.

3. A reduction of the staff required for the proper security of the railway transit,—for the proper attendance upon the passengers at the stations, or regard to their comfort in the carriages (by keeping them properly cleaned, lighted &c.) is not economy of management. It is a breach of trust, the remedy of which rests partly with the legislature, and partly with the public, who will make it felt in their diminished travelling.

4. A reduction of the salaries and wages of the servants (which, on the contrary ought to go on increasing with length of service),



whichever way it be effected, directly or indirectly, that is, by compelling them to support some fund set on foot by the directors, —taking away (from porters and police) a part of the clothing formerly furnished to them, or raising the rent of their cottages,—is not economy of management. It is the dishonest practice of a debtor who compounds with his creditors at so much in the £, and who in their turn will most probably retaliate upon him, in future transactions, by supplying him with a more than proportionately inferior article.

5. A reduction of working charges, by reducing facilities for travelling, and which thereby reduces receipts, is not economy of management. It is niggardliness and incompetency, separate or united.

#### 1. Per centage of working charges to receipts.

The fallacy of this mode of judging of economy of management must be self-evident to any one who troubles himself to think at all on the matter. There must certainly, however, be many of this unthinking class among the shareholders, and the directors seem not unmindful of it, inasmuch as we find them using it as an argument where circumstances are in their favour, in proof of their superior management; and when by that mode of computation the odds are against them, some sapient shareholder does not fail to charge them with it; when in fact, there may be, and it is equally as likely as the contrary, that there really is, more credit due in the latter case than the former.

To illustrate my position, let us take a railway whose fixed charges are per annum at the rate of £650 per mile, the fluctuating charges, or those consequent upon the traffic, £250 per mile,—the traffic receipts £1,200 per mile. The working charges are in this case 75 per cent. of the receipts, and our unthinking friends among the shareholders may in consequence entertain the unpleasant suspicion, that either the traffic, or some portion of it, is being transported at very low and unremunerating fares, or that the working charges are very expensive and extravagant.

Let us now take another railway, with fixed charges £650 per mile per annum,—charges consequent upon the traffic £750, the traffic receipts £3,600 per mile (being just in the same ratio to the attendant charges as in the former case), the working charges will in this case be 39 per cent. of the receipts.

Here the merits of the directors are most likely equally balanced ;

and yet in the one case, the working charges form 75 per cent of the receipts, in the other only 39 per cent.

To pursue this a little further, the better class of traffic having become, say upon the line last alluded to, tolerably developed, the directors or manager, which ever it may be, turn their attention to some new traffic which may be created, the only thing required to effect it being very moderate charges. It is done; the fluctuating charges are increased from £750 to £1,500, the receipts from £3,600 to to £4,800, the net profits being increased thereby £450 per mile, but the working charges raised from 39 to 45 per cent. In the former of the cases put, it would have reduced the working charges from 75 to 69 per cent.

So much for the per centage of working charges to receipts as a criterion of good or bad management.

In the last half-yearly report of the London and North-Western Railway Company there appears this paragraph:—"The reduction of £12,068 in the working expenses, without detriment to the efficiency of the service, notwithstanding an addition of 53 miles to the lines in work, will no doubt, be considered satisfactory to the proprietors. They will be pleased also to learn that, with a view of enforcing the most strict economy in every branch of current expenditure, a committee of the directors have been for several months employed in the thorough investigation of this most important subject, and are still occupied in the prosecution of this duty." This is the committee referred to in the *Railway Record* (an extract from which has been made, page 13), which it appears from the directors report, had, in August last, "been for several months employed" (and from the statement in the *Record* we may infer "are now still engaged thereon at the expense of about £15 per meeting).

Suppose we refer to the accounts themselves, of the London and North-Western Company, to see how this saving has been effected.

Six months ended.			
	Dec. 31, 1847.	June 30, 1848	Saving.
Maintenance of way and station	£44,146	£41,980	
Locomotive power.....	124,473	126,626	
	<hr/>		
Carried forward.....	£168,619	£168,606	

	Six months ended.		Saving
	Dec. 31, 1847.	June 30, 1848.	
Brought up.....	£168,619	£168,606	
Coach traffic charges.....	88,272	86,104	
Police.....	19,314	19,650	
Merchandize traffic charges.....	78,594	75,093	
Stores department charges.....	1,145	1,183	
Compensation for accidents and losses	5,660	5,243	
General charges.....	16,339	15,598	
Schools at Wolverton and Crewe..	828	924	
	<u>£378,771</u>	<u>£372,402</u>	<u>£6,369</u>
Parish rates.....	30,297	28,346	
Passenger duty.....	27,964	24,380	
	<u>£437,032</u>	<u>£425,128</u>	<u>£11,904</u>

So that out of the saving of £12,068, stated in the report, or £11,904 as shewn by the accounts, for which the shareholders are led to infer from the report that they are to consider themselves indebted to the committee "formed with a view of enforcing the most strict economy," and which committee had then been sitting for months, for the purpose of accomplishing this important benefit, the production of the two accounts in juxta-position shews that £6,369 is the utmost amount of the reduction that they can possibly have been parties to; and with respect to that sum, the merit looks of a very doubtful nature.

1. Maintenance of way is upwards of £2,000 less, notwithstanding an addition of fifty-three miles to the lines at work. Without *attempting* to account for this (at all events just now), I may remark *en passant*, that it certainly does not assist the prevailing opinion that the repairs of the roadway itself are increased by the express trains.

2. In coach traffic charges there is a saving of £2,168 on £88,272, or two and-a-half per cent., nearly, and in police, an addition of £336, or about one and a-quarter per cent. with fifty-three miles of additional line. There are many ways in which this saving (which it is in both cases,) might have been effected. It may be that some large establishment at a particular station has, by the opening of a branch line, been rendered unnecessary, and its com-

ponent parts spread over the new line opened ; some extravagance which had been hitherto existing may have been corrected, and so far as that goes, shareholders may be satisfied of *better* management, if not of *good* management. But it may also be that the provision for the security and comfort of the public has been lessened, or that the shareholders may, in accepting dividends formed out of this kind of saving, be, though unconsciously, accepting the proceeds of the porters' flannel jackets and shoes, or some similar "indirection,"—their children's bread and butter possibly. Let the committee explain the method by which any reduction has been accomplished, and then we shall be better enabled to pass judgment upon them, their wisdom, and their equity.

Honest savings can, in a general way, be effected only where extravagance or incompetence has previously existed, in which case it is the correction of an evil, not the production of a good. Assuming that there had been neither the one nor the other, the charges of these departments should gradually increase half-year by half-year, up to a certain point ; most certainly not diminish. A small but gradual increase of pay should go on with increase of term of service ; and a fund instituted, from which an old and faithful servant might look for some comfort and assistance when age and toil together had worn him down, and unfitted him for further labour.

But how really stand the facts with respect to railway employées at this present time ? A general feeling of dissatisfaction exists among them ; some who anticipated an increase of their pay, have found the reverse ; and others, whom the visitation of investigation committees have not yet reached, have all the anxieties which suspense creates. They have not even the means of indulging in that negative sort of jollity which the captain reported of his crew,—that one-half were happy that their flogging was over, the other half that they had escaped it. On the contrary, those who have already been mulcted are in dread of an attempted repetition of it ; and those yet untouched, are revolving in their mind, not the company's interest, as they otherwise would do, but whether to put up with or resist the "stand and deliver" of economical management.

The reduction of wages below the fair amount,—or below that at which the party had been originally engaged, and for the duty of

which he had been found duly qualified,—can really only be placed in the same category as compounding for the payment of goods below their agreed and valued price. As a matter of honesty or policy, turned or twisted in any way you will, the reduction of salary is objectionable; it can bring no good in comparison with the evil it causes. A person enters the company's service; the situation to which he is appointed is one that must endure as long as the railway endures; his common sense or ability has made him master of his business, and honest industry aid him in its proper and faithful discharge; zeal, which is all he wants to make him a perfect servant, springs from self-interest, and is cemented by gratitude. One would suppose that an investigation committee formed "with a view of enforcing the most strict economy," would see the importance of engendering zeal among the servants as the most important element upon which strict economy can be based, even although so long as capital account is open, its effects might not shew itself in figures in the revenue account. A system the very reverse is adopted, and "zeal" has now "obsolete" written against it in many of the railway vocabularies, and so it will continue until some "mutual assurance society" is formed or revived between employers and employed.

To return to our man, whom we just now installed in service of some kind,—he enters into engagements, *domestic* and pecuniary, upon the strength of his situation; length of service, he fairly enough argues to himself, *should* bring increase of emolument, at all events if it does not, he knows what he has now got, and of that he makes himself as certain as he does of faithfully discharging his duty. His engagements then are made for life and death (like the company, he too has made his investment in a speculation, and must discharge its responsibility, as the better he does so, the more advantageous it will turn out),—the comforts he enjoys springs from the company, he feels it fully, he acknowledges it fully, and zeal is the consequence; when an investigation committee, "with a view of enforcing the most strict economy," according to their narrow views, destroys the dear illusion, and with it the zeal and interest in the company's welfare to which it had given birth.

That a kindly feeling does exist among the shareholders towards their servants is clear from the provision made in many cases, for their religious welfare;—and surely the good that was thus intended

to be effected, it is not their desire to have neutralized by a disregard of their bodily comfort. The two should be considered together if any good is hoped to come of the former.

And now regarding the matter as one of pounds, shillings and pence,—the proportion of the whole of the portion of the charge of working a railway which consists of salaries and wages upon which the reduction system can be tried (for I omit the drivers and firemen of the engines, who have successfully resisted an alteration which had this for its ultimate object), may perhaps amount to 25 per cent. of the whole (not taking in of course parish rates or passenger duty),—omitting the large salaries which also are not affected, as it is from those who *have not* (the large salaries) that is taken away *what they have*,—I will take the sum upon which the investigation committee could deal, at 20 per cent., and say that it were possible to dock that amount 1-10th,—make all Sundays, for instance, of the servants, fast-days as well as pray-days,—the directors would probably reduce the working charges three per cent., their per centage on the receipts possibly one per cent. A shilling in a £5 dividend! Surely the profit here would not pay half the pain.

We have heard continually remarked of late—(a letter, too, upon the subject, appeared in the *Times* newspaper of the 28th ultimo),—of the systematic attempts now made by the railway porters at the railway stations, to extort money from passengers for attending them with their luggage, notwithstanding a bye-law of the company which enacts, that any servant known to receive money from a passenger, shall be discharged. Formerly, when situations were properly remunerated, comfortable, and (with good conduct) certain, the temptation to this disreputable proceeding on the part of the porters was comparatively trifling, and the risk far too disproportionate to be run. “Economy of Management” is the evil tempter.

It has nothing to do with the question of proper treatment or proper remuneration to the servants, whether the railway is a lucrative concern or not. The shareholders have invested in it for better or worse—they have undertaken the responsibility, and this they *must* fulfil to the public and their servants, whatever may be the result in a pecuniary point of view. They must consult the security and comfort of their passengers, and they will increase their numbers; and they must consult the comfort and feelings of their servants, and they will have their own interests better cared for.

3. What has been said with reference to coaching and police, will apply to the General Charges, or Establishment, under which head there is a diminution of £841 upon £16,339; but upon what it arises, salaries, wages, stationery, stores, or what not, there is no clue whatever for ascertaining. (The accounts are now stated so meagrely to what they were in the good old Birmingham times!) There is one observation, however, that I shall not hesitate to make, and that is, that inasmuch as there is no uncommon sense, but only common sense required to conduct a railway, there is no secretary or superintendent whatever, whose services would not be amply, or more than amply, remunerated at £1,000 a-year; and if "economy" in the wages and salaries branch of the current expenditure is to be indulged in by investigation committees, at that end of the list they should commence their operations; and instead of phlebotomising the little men, let them commence by cupping the great ones.

The debiting of any of the working charges to capital account will be found sufficiently referred to in the chapters on "Depreciation of Working Plant," and "Closing Capital Accounts."

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There remains then only one further point that I shall allude to, which is that miserable kind of management which, after constructing a railway, and making every arrangement for carrying on a traffic, fears the running expense of a train, that is, after constructing the course, and providing the horse and jockey, holds back, dismayed at the enormous expense of a set of horse-shoes.

The following sly hit at this "economy of management," not merely in saving, but in looking after *the pence*, I extract from the *Times* newspaper of Christmas-day last.

"Many of our readers will be glad to learn that a reading-room has been opened at the Rugby station, adjoining the Midland sheds, on the "up" side, to which passengers may obtain access by the payment of ONE PENNY, and they have an opportunity of reading the London daily and weekly newspapers, the county journals, and a variety of periodicals; a much pleasanter recreation than walking up and down the long, dull, and cold platform at this inclement season, for those persons *who are obliged to wait TWO OR THREE HOURS before they can proceed on their journey*, as is the case since

the alteration in the time of running the trains along the different lines that join at this station."

Here's economy! 1000 passengers a day at 1*d.* will produce upwards of £4 a day, and they will then, if the distance they have to travel be long enough, perform the entire distance from the beginning to the end of their journey in the same time as they would have done on the old coach road.

The second case I shall mention is, however, one almost too serious for even a sickly jest. It is the mode of conducting the traffic of the Chester and Holyhead Railway. That line has been constructed, as is well known, at an enormous cost. The engines, carriages, and steam-boats, have all been provided, the working staff furnished; all that remains in the way of the whole being completed, is a gap of four miles at the Menai Straits, to cover which, omnibuses have been hired; and now (as the London and North-Western Report in August last, says) "that the journey between London and Dublin is reduced to about thirteen hours, the directors look for that increase of traffic which always follows facilities of travelling." But here comes the bathos! The steam-boat runs at an expense three or four times that of the railway trains and omnibuses. But "Economy of Management" perceives that the horse conveyances for crossing the gap are very expensive, almost as expensive for the four miles as working eight miles of railway. Better, says "Economy," than incur such a serious charge, to let the steam-boats run empty, and the staff provided get into idle habits; and so there is but *one train* daily (besides the mail,) for Irish passengers, and as if to discourage the use of even that single train, as much as possible, the fare for a passenger to go second class by railway, and fore cabin by the steam-boat, between Chester and Kingstown, is TWENTY-SEVEN AND A HALF PER CENT. MORE than the saloon fare between Liverpool and Kingstown; and this is not in consequence of any reduction having been made in the fare by way of Liverpool, which remains the same as it has been for years. These are the "FACILITIES OF TRAVELLING!!" The parcels between London and Dublin, England and Ireland, still go by way of Liverpool just the same as if there were no Chester and Holyhead Railway, no expenditure of three millions of money for the purpose of affording increased facilities of communication.



For four years have the Welsh mountains been in labour, and behold the "*ridiculus mus*" that they have brought forth.

Traffic for the week ended Dec. 30—

	£.	s.	d.
Coaching .....	822	18	2
Parcels .....	32	4	2
Goods and cattle .....	143	10	3
Steam-boats .....	89	11	0

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£1,088 3 7

But then, consider the saving in horse-coaching across the gap at the Menai! Only the omnibuses, instead of both omnibuses and *horses* to be paid for! Think of that, and give "economy of management" its *just* due.

## ✓ DEPRECIATION OF THE PERMANENT WAY, AND ITS MAINTENANCE.

X In the last half-yearly report of a company, which has about 100 miles of railway opened, occurs the following paragraph with respect to the renewal of certain rails which had just taken place. "These new rails, 1,040 tons, have been purchased at the low price of £5 16s. 3d. per ton. The whole of this item, however, ought not with propriety to be deducted from the revenue account of the current half-year, but be apportioned equally over this and the two succeeding half-years, or with greater justice, perhaps, over a larger period of time." A new shareholder, or indeed any shareholder, might here fairly have inquired why a renewal, the necessity for which had been gradually arising in the previous half-years, had not been provided for in those half-years, instead of debiting the current half-year with a liability which it had neither incurred nor received any equivalent for.

X The total cost of these 1,040 tons of rails at the extraordinary low price at which they were purchased, would not, if divided over three half-years, bear very heavily upon each. But supposing instead of 1,000 tons (which may have been perhaps about half a mile of way, or 1-200th part of the whole line,) or £5 16s. 3d. per

ton, it had been five miles, ten miles, twenty miles,—and at £8 or £9 per ton, a sum in short sufficient to swallow up the dividend, which would otherwise have been payable, for a year or two,—what then would have been done? It would have been spread over a number of years, according to its amount, say twenty years (which in other words would be virtually placing it to capital account at five per cent. interest); and this will be—*must* be,—the way in which all railway companies will have to act at some future day, if, instead of making provision before hand, they continue to share in dividend that amount which should properly be set aside to meet this gradual certain destruction which is going on.

#### 1. Depreciation of rails and sleepers.

The duration of the rails must be a matter of estimate for each particular line of railway, depending on the weight and quality of the rails—on the weight of the engines travelling over them—on the perfect or imperfect state in which the engineer keeps the way—on the character of the traffic, and number of stoppages.

Assuming the rails proportioned to the weight they have to bear, and the quality of the iron and manufacture both good, there will be two elements gradually and regularly working their destruction,—wear and tear, and exposure.

The duration of the sleepers will depend a good deal upon their quality, and the nature of the soil in which they are embedded.

✓ With due care and consideration on the part of the company's engineer, assisted, if thought proper, by other engineers, a sufficiently approximate estimate may be formed of the annual depreciation of these materials, in other words, the annual amount to be set aside to provide for their entire renewal as they wear out; and as these estimates may be revised from time to time, and the revision spread over a long period, the amount set aside annually can vary but in the slightest possible degree; so that if precision is not hit upon at first, it will not be of much consequence. Let there be the attempt to attain it, and it need not be very wide of the mark.

The better to explain the plan which I propose for the management of the depreciation fund, and the maintenance of the way in perfect order, and by which plan the cost of these important items may be systematically *fixed* for a certain defined period, I will take the case—say a narrow guage line, with cross sleepers, and they

and the rails proportioned to each other and to the weight of the engine.

The sleepers, then, I shall estimate to last seven years, when they will be valueless; the rails, averaging the whole line throughout, and making allowance for the value of the old material, I will spread over a period of twenty years. [With respect to the rails, I have already intimated that a good deal will depend upon the quality of the iron and manufacture; Shropshire iron, for instance, will exceed the Welsh in quality, and some iron-masters exceed others in their mode of manufacture. Heavier rails will, possibly, by the same manufacturer, be less perfect than the lighter ones; but all these are matters for the engineer.]

The extra *length* of double line of way, to which the stations, crossings and sidings, are equivalent, I shall estimate at ten per cent. extra; the additional wear from pulling up the engines at the stations, together with the crossing-points, I shall take as equivalent to four per cent. The cost of the rails I shall take at £8. per ton.

The cross sleepers I shall estimate at one yard apart—their cost to support 50 lbs. rails 4s., and increasing proportionately in size and price with the increased weight of the rails.

With these data, the results, per mile, will be seen on the next page

I may here just digress, for the purpose of drawing attention to the consequence of heavy engines on the permanent way, in the items depreciation and interest on cost alone, independent of the difference of cost in keeping the line in order

	50 lbs.	65 lbs.	75 lbs.	90 lbs.
	£	£	£	£
Five per cent. interest on the cost of the rails and sleepers will amount to	108	140	162	194
To which adding depreciation .....	183	238	288	328
<b>TOTAL ANNUAL CHARGE</b> for interest and depreciation per mile .....	<b>£291</b>	<b>£378</b>	<b>£450</b>	<b>£522</b>

**ESTIMATED ANNUAL DEPRECIATION OF PERMANENT WAY PER  
MILE, WITH THE FOLLOWING WEIGHT OF RAILS TO THE YARD.**

	50 lbs.	65 lbs.	75 lbs.	90 lbs.
<b>1. RAILS.</b>				
Weight for main line	Tons.	Tons.	Tons.	Tons.
Tons per mile.....	157	204	236	288
Ten per cent. additional for stations, sidings, &c. ...	16	20	24	28
Average weight per mile	173	224	260	311
Cost per mile at £8. per ton .....	£ 1384	£ 1792	£ 2080	£ 2488
Annual depreciation of...	69	90	104	124
Add for extra wear at stations, &c. ....	3	4	4	5
Total annual depreciation of rails per mile .....	£72	£94	£108	£129
<b>2. SLEEPERS.</b>				
Price according to weight of rails .....	4s.	4s. 7½d.	6s.	7s. 2½d.
Amount per mile of main line .....	704	915	1056	1267
Ten per cent. additional for stations and sidings ...	70	91	106	127
Cost per mile ... ..	£774	£1006	£1162	£1394
Total annual depreciation of sleepers, per mile.....	111	144	166	199
Add rails as above .....	72	94	108	129
<b>TOTAL AMOUNT PER MILE PER ANNUM for renewal of rails and sleepers ...</b>	<b>£183</b>	<b>£238</b>	<b>£274</b>	<b>£328</b>

[The cost price of rails being one which greatly fluctuates with demand, their depreciation will be better estimated upon the weight and average price of a series of years, than by the cost price, high or low, thereby rendering the amount set aside more equal for a more extended period.]

· MAINTENANCE OF THE WAY IN PROPER WORKING ORDER.—

Most persons interested in railways are cognizant of the practice acted upon by railway companies generally, of charging the cost of the maintenance of the way for a certain period after its opening for traffic (generally twelve months) to capital account. The practice has had its origin in the circumstance of the repairs for the first year being generally included in the contract for the construction of the railway, with the object of inducing additional care on the part of the contractor to complete his work substantially, as what he would save by scamping the work, he would be likely to lose again in the increased cost to him of the year's repairs. So far the object in including it in the contract for construction is a good one ; but certainly not the charging on that account, its whole cost to capital. Upon the same principle, if the maintenance for *two* years was included in the contract for construction,—or if the running of the locomotive engines for a certain number of miles was made part of the contract for the supply of the engines, they might also be charged to capital instead of revenue, thereby showing a profit altogether fictitious at the outset, and burdening the undertaking for ever after with the increased interest thereby incurred.

The following appears in the last half-year's report of one of the railway companies, having their terminus in London ; and something of the same kind has either appeared,—or might have appeared, had the candour been equal,—in the reports of other companies. "The increase in the cost of maintaining the permanent way during the last two half-years" (and they might have added a portion of the increase in the capital account during that period), "is owing to the greater number of miles which had to be kept in *repair at the cost of the company*, the new lines opened being at the charge of the contractors for the first twelve months." One would almost be led to suppose from the wording of this paragraph, that the directors were impressed with the belief themselves, or desirous to make the shareholders believe, that the company did not really pay anything for the repairs, but that the contractor did it at his own cost ; whereas, so far from such being the fact, the amount set down in the contract for the performance of this work, is generally above (as it should be) the probable cost of future years, in consequence of the line, however well the work has been originally

done, being in a less state of consolidation; and therefore, of course, requiring more constant attention and labour.

The amount then that should be charged to the current revenue of the year is that amount that the maintenance will average, for a series of years.

The best policy for the company to adopt, where they have a clever and active engineer, is to employ their own labourers to do the repairs, as they then have the men always at command, and may very likely find it convenient and desirable to unite the maintenance and the police of the line in one staff. But whether the repairs are done by the company or a contractor's men, the average annual cost can be determined; in the latter case it is fixed, and in the former case, it can be estimated for a series of years, graduating from a large amount to begin with, to some diminished sum at which it may be expected to remain constant.

The considerations which mainly guide a contractor in forming his estimate, (assuming always that the way and the moving power are proportioned to each other), are,—the nature of the works, heavy or light,—material of which composed, good or bad,—consolidation, more or less,—means of obtaining ballast,—and state in which the moving stock is kept. The number of trains, excepting where they are so numerous as to materially interfere with the workmen, is an item of comparatively small importance.

I will suppose that the engineer, taking into account these and all other matters which affect the question, furnishes the directors with the following estimate, which is, I believe, a moderate one, and quite as low as a contract could be made for the several lines out of London, according to the number of years that they have been respectively opened:—

First year (included in contract.).....	£220 per mile.
Second ditto .....	205 „
Third year .....	190 „
Fourth ditto .....	180 „
Fifth ditto.....	170 „
Sixth ditto.....	165 „
Seventh and following years, £160., say 14	
years, making the entire time 20 years ...	2,240 „

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TOTAL PER MILE for twenty years...£3,370

Which divided by twenty, is £168 per mile, per annum.

The account then will stand thus :—

The maintenance of the railway and works	
of the line generally .....	£168 per mile.
✓ Depreciation of rails & sleepers, 75 lbs. rails	288 „

Amount chargeable per mile per annum...£456

Assuming the actual outlay the first year to be correct, there will be £236 (not £288), carried to the depreciation fund; the next year it will be £251, and so on, till it first reaches, and then exceeds, £288, this latter sum being the average of the whole.

Periodically the engineer may, if necessary, correct his estimate, which by including at all times the long period of (say) twenty years, will make any fluctuation from corrections very little perceptible, and still less felt. Thus, supposing the cost of four gone-by years upon which this plan had been adopted, to have varied from the estimate as much as £20 per mile, and that the engineer has reason to believe that the former estimate may be re-commenced at the third year, we shall have—

For the first four years .....	£875
Less average allowed .....	672
Excess .....	203
For the next ensuing four years.....	705
For the succeeding sixteen years.....	2,560
	£3,468
Which divided by twenty, is equal to	£173 per mile
Which with the depreciation .....	288

Will make the future amount chargeable..... £461 per mile, per annum, instead of £456.

Any alteration of this kind will show itself at once in the accounts, by the change in the amount, and by being accompanied, as it should be, by a printed explanation from the engineer, would make him proportionately careful as the shareholders are observant.

The general repairs of stations should be provided for by a fixed annual charge in a similar way.

The following is the state of the amount for maintenance of six of the principal railways during the six months ended 30th of June last. It shows, more than any arguments could do, the necessity for some general system being laid down and acted upon. Had all of these been alike as they should have been, or nearly so, it must have materially affected respective dividends.

	Total Amount.	Miles.	Amount per mile for six months.		
	£		£	s.	d.
1. GREAT-WESTERN .....	39,315	274	143	9	6
2. LONDON AND NORTH-WESTERN.	41,981	438	95	17	0
3. EASTERN COUNTIES—					
Repairs of line .....	11,919	295	40	8	0
Repairs of stations.....	1,000		3	8	0
	12,919		£43	16	0
4. SOUTH-EASTERN—					
Repairs of line .....	5286	193	27	8	0
Repairs of stations .....	278		1	9	0
	£5564		£28	17	0
5. SOUTH-WESTERN—					
Main line and Gosport Branch	15346	94	163	5	0
Salisbury and Bishopstoke...	1760	22	80	0	0
Dorchester and Southampton..	800	61	13	2	6
Guildford line .....	1640	6	273	6	6
Richmond line .....	811	6	135	3	6
	£20357	189	£107	14	0
6. BRIGHTON—					
Repairs of line .....	8446	159	53	2	6
Repairs of stations .....	1487		9	7	0
Engineers and inspectors ...	789		2	19	6
	10722		£65	9	0

The London and North-Western Railway Company is the only one that lays by a reserve for a renewal of rails, and they set aside £16,000 per annum, equal to £36 10s. 6d. per mile, per annum.



## DEPRECIATION OF LOCOMOTIVE AND CARRYING STOCK.

THE manager of the London and North Western Railway, Captain Huish, in his report to the directors of that company upon this subject, remarks—"The question of 'Depreciation' has long formed a fruitful source of argument, and with all the experience of twenty years, seems to be still undisposed of." What more demonstrative proof could possibly be given of the defective manner in which railway accounts must have been kept.

The several plans which have been adopted by some of the principal companies in relation to the renewal of their moving and carrying stock, may be thus briefly stated:—

1. The Liverpool and Manchester Railway Company did not set apart a renewal fund, but they left it to their treasurer to arrange with respect to any new stock to replace the old, according to the state of the half-year's account. It was made a mere financial operation. The treasurer held the scales, and threw in an engine or carriage to balance them in such way as in his judgment seemed best.

2. The Grand Junction Company had an annual valuation of the stock, and made up the difference between the original and new valuations by "continually infusing a certain portion of new and additional plant, and making up any deficiency by a depreciation fund." So says Captain Huish; and if so, there must be in the company's possession some very good data for arriving at a tolerably correct calculation of what repairs and depreciation together will amount to according to the work performed.

3. The Manchester and Leeds Railway Company commenced a plan (but which inordinate dividends, or some other reason, led them afterwards to abandon,) of setting aside a fund for the renewal of their engines, of 20s. for every mile run— $2\frac{1}{2}d.$  per mile nearly ( $2\frac{1}{2}d.$ )—and five per cent. per annum on the original cost of the carriage and waggon stock for their renewal.

4. The old London and Birmingham Company, previously to their unfortunate *mésalliance*, wrote off each half-year five per cent,

from the amount standing to the debit of the carrying stock, as the estimated extent of its deterioration during that period, and placed in consequence all new stock to capital. This reserve from revenue has since dwindled,—to one-half that amount,—to one quarter,—to nothing,—at which latter it seems likely to stand.

5. The Great Western Railway Company followed the plan of the London and Birmingham for a time, but at length gave it up. In February, 1842, it was resolved by the proprietors, at the recommendation of the directors, that £20,000 should be set aside yearly “to redeem the depreciated value of the carrying stock;” [the stock at the time of passing this resolution, had cost £507,504.] This was acted upon for five years, and then abandoned, the directors having recommended its suspension “until some of the extension lines, now in course of construction, are finished.” A most odd reason, truly! The stock at this time had reached £637,029; and on the 30th of June last, it was £842,563!

6. The London and South Western Railway Company, convinced by the arguments *de poche* of their chairman, Mr. Chaplin, repudiated a depreciation fund. These arguments were—that the stock must, of necessity, be always kept in working condition, otherwise it wouldn’t carry on the traffic: if in working condition, what more could be required? A fund for renewing what was already renewed, half-year by half-year, would be ridiculous. What difference was there between a horse and a locomotive? He had never kept a separate fund for the renewal of his horses, and he had had upwards of a thousand of them; he regarded all as profit, and put it all in the same pocket. So should they; divide all they could, and be thankful.

As Mr. Chaplin did not say (at least that I am aware,) that he spent all his profits, or balance of receipts, as quickly as he got them, the argument, so far as it bears upon the railway case, amounts to just NOTHING. If Mr. Chaplin spent year by year the whole net balance he received, I take the liberty of saying, with the greatest possible degree of confidence, that his income must have fluctuated in different years very considerably. If, however, he did not so spend all the balance, he DID *lay by a fund to meet renewal of stock.*

On the next page I have put in juxta-position the half-yearly accounts of the South Western company for locomotive power for the

# LONDON AND SOUTH WESTERN RAILWAY COMPANY.—CHARGE FOR LOCOMOTIVE POWER.

LOCOMOTIVE POWER. { 6 Months } ended	Dec. 31, 1843.	June 30, 1843.	Dec. 31, 1843.	June 30, 1844.	Dec. 31, 1844.	June 30, 1844.	Dec. 31, 1844.	June 30, 1845.	Dec. 31, 1845.	June 30, 1845.	Dec. 31, 1845.	June 30, 1846.	Dec. 31, 1847.	June 30, 1847.	June 30, 1848.	Total 6 years.
Wages of Drivers and Firemen...	£ 2,383	£ 2,128	£ 2,135	£ 2,088	£ 2,148	£ 2,344	£ 2,743	£ 2,973	£ 3,447	£ 3,813	£ 5,395	£ 5,429	£ 5,395	£ 5,395	£ 5,429	£ 37,096
Coals and Coke .....	6,660	5,360	5,775	5,098	7,065	7,186	8,868	9,155	11,504	12,017	16,273	11,168	16,273	11,168	11,168	105,123
Superintendence, Salaries, &c. ....	846	788	846	829	819	972	933	956	972	980	1,200	989	1,200	989	989	11,121
Gas .....	78	73	108	89	64	82	98	73	108	115	82	98	82	98	98	1,068
Wages and Materials for Repairs } and Running .....	9,967 12,391	8,339 10,112	8,867 11,260	8,104 9,017	10,096 9,335	10,594 8,139	12,642 8,068	13,157 7,112	16,031 7,718	16,925 10,112	21,950 13,504	17,675 12,199	21,950 13,504	17,675 12,199	17,675 12,199	154,337 117,967
TOTAL COST .....	22,358	18,451	20,127	17,121	19,431	18,723	20,710	20,369	23,749	27,037	34,454	29,874	34,454	29,874	29,874	272,304
Cost of Locomotive Stock .....	104,911	104,911	104,911	104,911	104,911	104,911	111,689	120,027	140,613	161,763	200,676	238,360	200,676	238,360	238,360	
Ditto & Carrying Stock (together)	181,239	181,239	183,125	185,549	191,559	201,472	218,079	254,771	298,037	360,011	448,262	510,546	448,262	510,546	510,546	
Traffic Receipts .....	173,631	150,342	180,906	169,251	190,632	169,790	203,028	182,299	196,323	192,432	247,625	218,587	247,625	218,587	218,587	2,264,846
Estimated Mileage of Trains ....	381,280	340,480	341,600	334,080	343,680	375,040	438,880	475,680	551,520	610,080	863,200	868,640	863,200	868,640	868,640	5,924,160
Cost of Locomotive Power per Mile	d. 1,500	d. 1,500	d. 1,500	d. 1,500	d. 1,500	d. 1,500	d. 1,500	d. 1,500	d. 1,500	d. 1,500	d. 1,500	d. 1,500	d. 1,500	d. 1,500	d. 1,500	d. 1,500
Wages of Drivers and Firemen..	3,771	3,771	4,060	3,662	4,934	4,598	4,849	4,619	5,006	4,400	4,246	3,085	4,246	3,085	3,085	4,939
Coals and Coke .....	532	555	594	596	570	622	510	483	420	385	334	271	334	271	271	451
Superintendence, Salaries, &c. ....	.049	.051	.076	.064	.045	.053	.054	.037	.049	.045	.023	.027	.023	.027	.027	.043
Gas .....	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Cleaners, Oil, &c. Running. ....	7,773	7,377	7,730	7,392	8,549	8,273	8,413	8,139	8,475	7,830	7,603	6,383	7,603	6,383	6,383	7,753
Repairs .....	6,299	5,628	6,411	4,978	5,019	3,708	2,912	2,088	1,559	2,478	1,977	1,871	1,977	1,871	1,871	3,379
TOTAL COST PER MILE RUN ....	14,073	13,006	14,141	12,300	13,569	11,981	11,325	10,927	10,334	10,308	9,580	8,254	9,580	8,254	8,254	11,032
Locomotive Stock per Mile Run..	d. 5 6	d. 6 2	d. 6 2	d. 6 3	d. 6 1	d. 5 7	d. 5 1	d. 5 1	d. 5 1	d. 5 4	d. 4 8	d. 5 6	d. 4 8	d. 5 6	d. 5 6	d. 5 5
Ditto & Carrying Stock (together).	9 6	10 8	10 9	11 1	11 2	10 9	9 11	10 8	10 10	12 1	10 4	11 9	10 4	11 9	11 9	10 11
Traffic Receipts per Mile Run ...	9 1	8 10	10 7	9 6	11 1	9 1	9 3	7 8	7 1	6 4	5 9	5 0	5 9	5 0	5 0	7 8

last six years. Calculating the pay of the drivers and firemen to average together  $1\frac{1}{2}d.$  per mile, I cannot be far out in my estimate of the number of miles run during each period, and deducting  $1\frac{1}{2}d.$  per mile from the items of "wages of mechanics, labourers, and cleaners," &c., &c., for what may be called *running charges*, the balance may be very fairly considered the amount for *repairs* or keeping up the stock in working condition. Now the results thus produced do of *themselves*, to my mind, point out as clearly as anything can, the necessity of a fund, or at all events of some principle being laid down and adopted whereby to regulate both **MILEAGE CHARGES AND INCREASE OF CARRYING STOCK.**

Some of the curious features presented by these accounts I will briefly allude to.

1. The extraordinary increase of mileage of the engines as compared with the receipts. Take the first half-year of 1843 and of 1848 for example. Thus—

	Miles Run.	Receipts.	Average. per Mile.
In the half-year ended June 30, 1848...	868,640	£218,587	5s.
“ “ June 30, 1843...	340,480	150,342	8s. 10d.
Difference .....	528,160	£68,245	2s. 7d.
Carrying stock 1848...	£509,543		
“ 1843 ...	183,125		
£10 per cent. on .	£326,418.....	32,641	
Then the Difference.....	£528,160.....	£35,604	1s. 4d.

2. Receipts per mile of railway—	Miles Opened.	Receipts.	Receipts per Mile of Railway.
In the half-year ended June 30, 1848.....	189	£218,587	£1,157
“ “ June 30, 1843.....	78	150,342	1,927
Difference .....	111	£68,245	£615

In neither of these cases do I presume to say, or even to entertain the opinion, that there is anything herein that cannot be satisfactorily explained, so far as the directors or managers are concerned. Full and explicit explanations of the real state of affairs,—accounts upon a clear and defined plan, is all that I contend for. If the

According to my own observation, it may be laid down as a general rule, that an engine may be calculated to run 40,000 miles per annum (I speak, of course, of lines of sufficient length, and having traffic arrangements that will admit of it). Making the *most liberal* allowance of two engines to do the work of one (by way of covering pilot engines, branch engine lines, difference in number of trains at one period than at another, and engines undergoing repairs), we shall have one engine for every 20,000 miles run per annum; and any stock beyond that, would either have some special circumstances by which to account for it, or it would be unnecessary and consequently extravagant.

On referring to Capt. Huish's reply to Mr. Whitehead, we find the mileage *run with* trains during the year—

	Passenger Trains.	Goods Trains.	Total.
Ended 30th June, 1848, to be	4,220,078	2,626,049	6,846,127
At 20,000 miles per engine,			
would give, engines .....	211	131	342
The actual number of engines is	268	144	412
Being an excess over my estimate of.....	57	13	70
And reducing the average annual mileage from 20,000 to	15,747	18,237	16,617

Applying the foregoing method of calculation to the London and South-Western Railway, their mileage for the year having been 1,731,840, there would be required—

At 20,000 miles per engine (my estimate of what should be) ..... 87 engines.  
 At 16,617 miles per engine, the actual running per engine on the London and North-Western Railway 105 engines.  
 While the actual number, taking the amount debited to the South-Western capital account, and allowing £1,750 per engine and tender, would be ..... 136 engines.  
 being forty-nine more than necessary, if my estimate be correct, and thirty-one if the London and North-Western Railway Company have no more than sufficient.

Capt. Huish, in his pamphlet, gives a statement of the amount debited to capital for engine power and carrying stock, by half a dozen other railway companies, and assuming from the length of

the respective lines (an extremely fallacious mode of looking at the question,) that theirs is less in proportion than the others, he wishes us to consider that some credit is due to the London and North-Western Railway Company under the circumstances. If his mode of comparison were correct, it would, even then, leave it an open question whether the comparison was to stand as bad, worse, worst;—or good, better, best. "It follows, therefore," says Capt. Huish, "*that these companies have provided a great excess of stock, which our experience denies, or that they are paying dividends out of capital, a supposition which cannot be entertained, or (which I take to be the next solution of the question) that the London and North-Western Railway Company are undercharged for stock, by having, at various times, and in different ways, deducted too large an amount at the expense of their revenue, and, consequently, of the dividend of the proprietors.*"

Capt. Huish further informs us, "that the condition of the company's stock is highly satisfactory, and *contrasts very favourably with that of any other company.*" Another rather invidious comparison, and not very well borne out, considering the great increase that is continuing to be made to the stock.

However,—these matters may be easily put to the test, by a report from good practical men, of the number of engines required on each particular railway, according to their traffic, and their peculiarities with reference to branch lines and other matters; and also, by an inventory and valuation of their stock: in doing this, either the suspicions that "Nunkey (capital) pays for all," will be set at rest, or, at all events, it will lead to some better system being adopted for the future.

I will now more particularly advert to the London and North-Western Railway Company, and their managers' pamphlet.

On reference to the company's account for the half-year ended 30th June last, it will be seen, that not only was no amount debited to the half-year's revenue for the depreciation of the stock, but that, on the contrary, a sum of £30,642. which, by the managers' showing, had been overcharged to revenue in the previous half-year, was to be replaced, and went to add to the half-year's dividend.

The statement furnished by Captain Huish to the directors, and which led them to debit capital with the sum of £30,642 written off therefrom on the previous half-year; and to defer for the present, at all events, any further debit on that account to the half-year's traffic, was this:—

That the actual value of the company's carrying stock on the 31st of December, 1847, was <i>bona fide</i> .....	£1,535,640
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And that the account standing to its debit in the books of the company (after £32,642 was written off,) was only .....	1,462,901
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And that therefore the difference between these two sums had been (by means of the depreciation fund,) improperly debited to revenue instead of capital, viz. ....	£72,739
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It appears there had been an estimate in the previous year, (1846), which showed the stock to be of £13,629 less value than the sum debited to the capital account, but it is not necessary to go into this; and I shall therefore assume, for my present purpose, that the last valuation was correct, and that capital account had really at that time been credited by the depreciation fund, with £72,739 too much. £72,735 in ten years, on a gross sum of £450,000 or therabouts!

The mode then of rectifying this growing error of twenty half-years was to carry the aggregate sum (that is, the £30,462 of the the previous half-year, and a more than equal amount that would or should otherwise have been set aside for the purpose in the current half year), to the half-year's profits, not as a bonus, the consequence of an error, but as though that half-year had earned it, and had therefore become fully entitled to it on that score. Now supposing that it had been the other way, (as it had been in 1846, as it could hardly fail to be with the several companies who have had a depreciation fund,) what would have been done then? Would the shareholders have been satisfied to have had it deducted from the current half-year's revenue? Would Captain Huish have recommended it to the directors, or the directors suggested it to the shareholders? Would it not rather have been said that the

same time that it had taken to grow, the same time at least should be allowed to clear it off; or,—if it had got debited to capital account, that it could not have found a better location, that there it had better remain, and future shareholders should subscribe five per cent. annually, to cover the constant expense it had created.

Captain Huish further furnishes us with this information,—that the total amount which the capital has been practically reduced in a very few years by means of the amount debited to revenue for the depreciation of the stock, or for the carrying stock charged direct thereto, has been ..... £431,075  
And that the valuation shows that this sum has been  
too much by..... 72,739

Hence it follows, that the proper sum should have..... £358,336

So that, admitting all Captain Huish's data, it follows, that if £431,075 result from a debit to revenue of ten per cent. per annum,—£358,336 would have resulted from £8 6s. 4d. per cent.; and that one-twelfth, instead of one-tenth of the cost of the carrying stock would have been the true amount to be set aside.

But it should be here observed that the old London and Birmingham railway directors, in laying down the just principle of a certain retention from revenue to cover the general depreciation, omitted to apply this reserve, as they should have done, to extraordinary reinstatements of the engines, such as new sets of tubes, or new fireboxes. Had the fund been applied to this purpose, as it should have been, *the ten per cent. per annum would have been under the mark.* The retention should also have been kept distinct from the capital account, instead of being written off it.

✕ Captain Huish observes,—“The means, however, exist, of still keeping up the same aggregate value of a stock when deteriorated by age, without any ‘depreciation,’ by adding out of revenue so much new stock as shall represent the difference of *value in any given time.*” Assuming the stock to be in proportion to the work it has to do, time and mileage will be synonymous; and the periodical amount may be fixed either at a per centage or mileage rate, which certainly must be far better than the irregular plan of “adding out of revenue,” as he proposes,—and thereby laying the man-



agement open to the very evil which he himself thus points out. "The facilities which this large and doubtful item affords for producing a 'satisfactory report,' and the temptation which it holds out to a railway executive, is an additional reason for regarding it with extreme jealousy. Other expenses are fixed and defined. This is an indefinite incubus which it is difficult to avoid, but very unpalatable to meet."

It may be unpalatable to meet, but it is a debt incurred; and unpalatable or not, our common sense of duty will tell us that there should not be two considerations about it. Captain Huish points out that the strength and durability of the carriages now built, is greater than of those built some years ago; and hence he tells us, arises another disturbing element. No doubt the term of years of both engines and carriages will differ according to different circumstances, as to original construction, use, and exposure to the weather. But assuming an average of one with another (in the same manner as is done with such extreme accuracy with regard to human life), we shall find that some exceed, and some fall short of the average. What then? The average itself may probably remain unaltered, or if not, we can make the necessary correction. Insurance Tables have undergone that process, and will do so again, partly from improved data, partly from the "strength and durability of the stock" improving upon what it was formerly. But no one ever founded upon these facts, an argument against insurance companies or depreciation funds.

The plan I propose, is simply this:—Let the company's engineer, with one or more practical men, catalogue and value the motive and carrying stock,—and let them report the price per mile run, per engine and carriage of each description, at which, they estimate a contract might be made (and a contract might too be made, if considered desirable,) to keep the stock in complete running order, renewed as worn out, and a stock of equal condition and value returned at the expiration of the contract, or the difference made up in cash. Here, then, is a fixed defined mileage charge for repairs and depreciation, to be regularly debited to the half-year's revenue account. If the current charges are below this sum, the difference goes to the reserve fund; if above it, (which they would not be for some time,) the difference would be paid out of this fund.

Let a survey of the stock be made occasionally (say every three years), in order to ascertain whether any revision is needed of the mileage charge; and if so, let it be commenced the ensuing half-year, after being first reported to the shareholders.

To render the plan more clearly understood, I will just observe that I estimate the repairs and depreciation together as follows:—

1. Engines and tenders, at cost of £1,750 per engine and tender, 4*d.* per mile run; which, calculated upon 20,000 miles, will give £333 6*s.* 8*d.*, or nineteen per cent. (say twenty, or one-fifth,) of its cost per annum.

2. First class carriages,—cost £400,—two-fifths of a penny per mile, which calculated upon 30,000 miles, will be £50,—or one-eighth of its cost (twelve and a half per cent.) per annum.

3. Second class carriages,—cost £280,—one farthing per mile = £31. 5*s.*, one-ninth of its cost (eleven per cent.) per annum.

4. Third class carriages,—cost £225,—one-fifth of a penny per mile = £25, or one-ninth of its cost (eleven per cent.) per annum.

5. Wagons,—cost £120,—15,000 miles per annum,—two-ninths of a penny per mile, = £13 17*s.* 9*d.*, or one-ninth of its cost (eleven per cent.) per annum.

Thus,—if the stock be proportioned to the work to be performed, and the mileage approximate to that here stated, an inventory of the stock will show at once the half-year's charge for repairs and depreciation. All the running charges, except coke, are matters of almost exact calculation, and the coke becomes so likewise, after a little experience of the consumption and arrangement as to price; and, thus, all becomes defined (precisely the same as if a contract had been made at per mile), regular and satisfactory, instead of, as now, undefined, irregular, and open to suspicion.

## CLOSING CAPITAL ACCOUNTS.

IF it rested with me to arrange the capital stock of a NEW LINE OF RAILWAY, it should be in this wise :—

1. The share capital should be of an amount sufficient to cover the entire cost (as estimated) of constructing the line and stations, and providing the carrying stock (with only three-fourths of the amount to be called up, except under special circumstances hereafter explained.

2. The borrowing powers should be of two kinds.

First, To the extent of one-fourth the share capital, upon the security of that extent of uncalled amount of the shares ; but the power not to be exercised until one-half of the share capital has been paid up, when each shareholder, who shall have paid up his calls, should be then offered his proportion thereof (according to his shareholding), as a perpetual share or debenture, bearing preference interest at the rate of four per cent.

Second, To the extent of one-sixth of the share capital, upon the security of the revenue. But this part of the borrowing powers not to be exercised until seven-eighths of the entire amount authorized on shares, has been, either in shares or in loans (as above provided for) fully paid up.

SHARES.—The shares, then, would be of a specific amount, but with a general understanding that only three-fourths thereof will be called up, unless the means of borrowing fail, which is not likely with the security offered.

PREFERENCE SHARES, OR FIRST-CLASS DEBENTURES.—The remaining one-fourth a shareholder may pay if he please, receiving in such cases, quarter-share certificates, with preference interest guaranteed thereon, the same as if he were a debenture holder to that amount ; or, if he pleased, he might, further, have the quarter share cancelled, and his original share stamped as paid in full (which would not interfere with his interest), and would free him from all further liability as regarded his original share ; otherwise the two holdings would be regarded as distinct, he being liable to the company on the one, and the company being liable to him on

the other, and the one might, in case of necessity, be paid in as against the other, if he had still retained it.

Any shares not so taken by the shareholders might either be disposed of in shares or debentures, whichever the general body of shareholders might decide upon. Their security would be,—the uncalled amount of shares they represent,—and the revenue of the company after satisfying the second-class debenture holders.

Any shareholder who had declined taking his proportion of quarter shares when offered to him, or had become a shareholder subsequently to their issue, might, by the purchase of quarter shares, redeem the liability on the original share.

The money thus raised by shares and borrowing powers No. 1, would be the *fixed capital* of the company; those raised by borrowing power No. 2, supposing such required to be raised, would be the *floating capital* of the company.

The first claim on the company's half-yearly revenue would be the interest on the floating capital or debentures No. 2; the second claim would be the interest on debentures or preference shares No. 1; the third would be the setting aside a fund of four per cent. upon the floating capital No. 2, to provide for its liquidation; and the balance or remainder would form the dividend.

[There are exceptions to almost any general rule, and the same may arise here, in which it may be desirable to apply to parliament to increase the capital stock, which should, in such case, follow the principle here advocated.]

**LINES IN COURSE OF CONSTRUCTION.**—The plan that should be adopted by every company, whose line is in course of construction, would be to have at once an estimate prepared upon the detailed plan which I have proposed in the first chapter, and circulated among the shareholders. After sufficient time has been allowed for its consideration, let a meeting be held to determine the amount at which the fixed capital shall stand; and let it be also determined that any excess beyond the amount so fixed shall be provided for by a floating capital in the way already pointed out,—and in case any further act of parliament be required, either now or hereafter, to provide any excess of capital, let the solicitors be directed to apply for the powers in such way as will the most closely approximate the whole capital to the system here laid down.

machinery, of which the object is to afford additional accommodation for the general traffic, and the stores and working stock, as well as to facilitate and economise repairs.

“By the outlay, large as it appears, which has been incurred for these objects, not only have facility been acquired for working the company's numerous passenger, goods, and cattle trains on different points of the line, but the directors have been enabled, in a great measure, thereby to dispense with the proposed addition of a double line of rails from Primrose-hill Tunnel to Watford Station, by which an expenditure of little short of £500,000 has been avoided. They have, also, secured the means of reducing the expense of repairing their stock, and of concentrating the general business of the railway at the Euston Station, by which a further saving will be effected.”

The following Table shows the effect of the two systems, viz. : that now in operation, and that which is here suggested.

Assuming a continuous and regular addition, each half-year of any fixed rate per cent. upon any amount of capital, such capital would be increased as follows :—

RATE OF INTEREST.	PRESENT PLAN.					PROPOSED PLAN.				
	Addition at rate per cent.					Addition at rate per cent.				
	1	2	3	4	5	1	2	3	4	5
25 per cent. in years	12½	6½	4½	3½	2½	100	9½	5½	3½	2½
50 per cent. ..	25	12½	8½	6½	5	—	100	14½	9½	6½
75 per cent. ..	37½	18½	12½	9½	7½	—	—	100	18½	12½
Doubled ..	50	25	16½	12½	10	—	—	—	100	22

But it is to be specially noted, that any diminution of the rate of the addition in any half year, leads, upon the “proposed plan,” to a diminution of the former addition, so that the eventual result of the process, assuming the addition each half-year to capital not to go on FOR EVER, would be to reduce the capital to the amount at which it stood at the time that the system commenced ; instead of adding permanently thereto, as it would do upon the old plan. The proposed plan, in short, is a sinking fund upon the excess portion only of the capital, the one now in use upon the entire revenue.

The fluctuating capital and sinking fund might further be made applicable to the equalizing of the following charges, (unless it

should be determined to keep separate funds for them, the same as the depreciation funds, which is the course I should certainly be disposed to adopt myself), viz., interest upon loans, compensation for accidents and losses, and advertising.

1. Interest on Loans.—Three or four years ago, some of the railway companies borrowed money at three and a half per cent., and hardly cared to take it at that, unless very long terms were named; they are now troubled to obtain it at five per cent.: and it unfortunately happens that, when interest is higher, traffic, and, therefore, the means of paying that interest, is less. To illustrate our case by an example, the London and North-Western Company have, say £9,000,000 of borrowed money—

Three and a half per cent. on this amount is	£315,000
Four per cent,	„ 360,000
Five per cent.	„ 450,000

Supposing, as must, one day or other, be the case, the whole of this sum (or, at all events, the whole of their loan capital, whatever it may be), to be payable out of the traffic earnings, would not a defined and permanent sum (of, say £360,000, or thereabouts, the sinking fund increasing or diminishing it a trifle) be far better than, say £315,000 when traffic is brisk, and £450,000 when it is dull?—(a difference between the two of 1 per cent. on the dividend.)

2. Compensation for losses and accidents is another very fluctuating and uncertain charge for each half year, but one of which it is very easy to form an average for a number of years. There are companies now in existence, and in embryo, that would be ready to divide among themselves the risk; the data they have for forming their calculations cannot be better, if so good, as those which the railway companies themselves have: then why should not each railway company be its own insurer, by setting aside a fixed amount per annum, progressionally increasing in amount with the decrease in the staff, and the consequent double hazardous nature of the risk?

3. Advertising.—This, too, is a charge, rather formidable at certain periods, particularly at the time of opening a line,—bearing, in short, very unequally upon each half year, although an average can very well be struck upon this amount as upon the others.

With all the several items, which I have enumerated, main-

tenance of way, locomotive power, carriage and wagon repairs, compensation, advertising, and interest upon loans, fixed upon a regular and defined basis,—and with police, coaching, and goods department, and the other revenue charges, stated in the manner to be presently explained,—the revenue, as well as the capital, accounts, will be denuded of all their present mystic mystery ; every shareholder, actual, or “thinking-about-it,” will be able to make his own computations ; and “auditing of accounts,” which, from first to last, has been almost as great a piece of humbug, although not so costly an one, as that of managing director, will go out of fashion like witchcraft, because shareholders will be too knowing to be any longer deluded by it.

To return, for a moment, to the floating capital account, from which I have been digressing, every addition thereto should be fully set forth—the cause, the amount, and the expected advantages—in each half-year’s statement of accounts, and four per cent. written off therefrom, in addition to the interest,—all of which would be debited to revenue.

Dependent upon the adoption of this system, railway companies, who have used their money powers to the extent authorized by parliament, might be empowered (by a general bill, and without application to parliament for the purpose) to raise a further sum not exceeding one-twelfth of their share and loan capital united, upon *second mortgages*, but to rank after, in point of claim, any guarantees (mortgages, preference shares, or others) already entered into. All that should be required to permit the exercise of this power, should be—1. The resolution of a general meeting of shareholders : 2. The lodgment of a true copy of such resolution, certified by a magistrate, with the Board of Trade : and 3. An acknowledgment, in return, that the Board is satisfied that the requirements of the act have been complied with.

## PARISH RATES.

WITHOUT dwelling upon the notorious fact of the exorbitant assessment of railway companies to the relief of the poor of the several parishes through which the railway takes its course, I shall content myself with pointing out, what appears to me, a fair method of regulating the assessment between the parties, and one than which nothing can be more simple or free from litigation.

I must premise that the legislature has secured, by a clause in the several railway acts, all parishes, through which the railway is to pass, from any diminution of their rates during its construction, by empowering them to assess the land at the same amount as it was assessed at, previously to the company coming into possession. Here, then, is a starting point ; but it will not assist us in every case, because, oftentimes, some of the land taken by a company has not been previously assessed, from either not having been cultivated, or being incapable of being so.

Whether then, previously assessed or not, I would propose that the original and minimum assessment of a railway should be such proportion of the entire assessment of the parish, as the land within the railway fences bears to the entire land assessed in the parish, *now, or at any future time.* This assessment I shall assume, in agricultural parishes, to be made upon a rent which gives a return of three per cent. on the capital invested, and in parishes consisting principally of house property, gives a return of five per cent.

The interest upon the railway capital, I consider, should be calculated upon the gross amount expended, without distinction of shares or loans, main lines or branches.

So long as the interest on the gross capital does not exceed three per cent., the railway (main and branch line equally), should be rated in the agricultural parishes upon the original and minimum assessment ; and when the interest exceeds three per cent., the rateable amount should be increased proportionably with that increase ; so that if the interest was six per cent., the assessment should be double that which it had been originally.



In the town districts, the assessment should remain at the original or minimum, until the interest exceeds five per cent., when it should be increased correspondingly with the increase upon that percentage.

The assessment should be made each Easter on the previous *year's receipts*, and on the capital as it stood in the middle of that year, or on making up the accounts on the 30th June.

## HALF-YEARLY STATEMENT OF ACCOUNTS.

**EVERY** half-year's statement of accounts should commence with an enumeration of the company's several acts of parliament, setting forth the purpose for which each act was obtained, and the powers to raise money which it confers, and the extent to which sanctioned by the shareholders. Thus—

[illegible]

To be followed, where necessary, by a statement to show in what manner the share capital authorized by the shareholders, has been allotted,—viz. :

[illegible]

The receipts and charges, capital account, to come next; the receipts to be made out in the form best adapted for comparison with the foregoing returns, and stating against each description of shares the date of future calls; and against the loans, the date at which each portion becomes due, and the average rate of interest; the charges to be shown in the manner pointed out in the chapter on Railway Management, with two columns on the left for the "original estimate," and last "revised estimate."

The floating capital account (if there be such), to show the previous half-year's amount, and the process of its reduction by the four per cent. (and interest); and, then, to show the additions thereto, with a full detail of the circumstances thereof, during the half year, explaining whether in continuation of some work previously begun, and, if so, the past, present, and estimated future payments, so as to show its probable gross cost; if a new work, the inducement to its being undertaken, and the gross estimated outlay.

The traffic, or revenue receipts, to be made out in sufficient detail to admit of a judgment being formed of the respective classes of traffic; further than this need hardly be specified here. The mode of stating the charges will be very similar to that set forth in the chapter on "Railway Management;" but to render my views as clear as possible, I will work out a suppositious case of a railway 100 miles in length, with six passenger and two goods trains daily, and assume certain working charges, the figures of which, however, like the case itself, have no real existence. All I want is an agreement upon the principle;—there are practical men enough to soon settle the details.

I may just add, that a good general balance-sheet to wind up with, is indispensable; but the extent of its details with respect to liabilities on the one hand, and assets in stores, unreceived traffic earnings, &c., on the other, it is unnecessary to enter into now, further than to remark, that the meagreness of these details, as generally given, and the blending of all sorts of assets, and all sorts of liabilities together, in one lump sum, give an air of doubt to the amount, which is as easily avoided, as it is desirable that it should be so.

# TRAFFIC CHARGES FOR THE SIX MONTHS ENDED .....1849

Length of Railway—100 miles.

Average number of Trains during the six months;—

Six passenger daily	Two on Sundays
Two goods ditto	none.

## 1. GENERAL MANAGEMENT.

	Six Months.	
	£ s. d.	£ s. d.
<b>DIRECTION—</b>		
£150 each 4 chairmen of committees.....	300 0 0	
£100 each, 8 other members .....	400 0 0	
Travelling charges, divided in proportion of travelling by the directors at end of half year	100 0 0	
<b>SECRETARY'S DEPARTMENT—</b>		
Secretary .....	£600 per ann. 300 0 0	
8 clerks for general duties of office, checking traffic, registering transfers, and 1 messenger	600 0 0	
Fire, Lights, Postages, Parcels, Stationery, &c.	125 0 0	
<b>SUPERINTENDENT'S DEPARTMENT—</b>		
Superintendent (and travelling charges).....	300 0 0	
4 clerks and messenger.....	300 0 0	
Fires, lights, and all charges.....	75 0 0	
		2,500 0 0

## 2. MAINTENANCE OF WAY AND STATIONS.

	Per Mile.	
	£ s. d.	£ s. d.
Average annual cost of repairs..	168 0 0	
Depreciation of sleepers .....	166 0 0	
Ditto of rails, 75lbs. to the yard.	108 0 0	
Engineers, Inspectors, &c.....	14 12 0	
Total per mile per annum.....	456 12 0	
Equal for 6 months, 100 miles.....	22,830 0 0	
Repairs of stations (as per details) .....	500 0 0	
		23,330 0 0

## 3. SIGNALMEN, SWITCHMEN, AND GATEKEEPERS.

	Pay.	Clothing.	Stores.	Total.	6 Months.	
	s. d.	s. d.	s. d.	s. d.	£ s. d.	£ s. d.
48 signal & switchmen..	20 0..	2 0..	2 6..	24 6..	1528 16 0	
12 gatekeepers.....	17 0..	1 6..	1 6..	20 0..	312 0 0	
2 inspectors (including travelling allowance)..	52 6..	2 9..	1 6..	56 9..	147 15 0	
						1,988 11 0

## 4. COACHING ESTABLISHMENT.

	Six Months.	
	£ s. d.	£ s. d.
2 terminal station superintendents, each £300.....	300 0 0	
30 booking clerks, &c ..	Highest. £160.. Lowest. £70.. Mean. £100..	1,500 0 0
70 porters (including clothing 9d. per week)..	20 9.. 18 9.. 20 0..	1,802 0 0
10 ticket collectors, &c ..	27 0.. 22 6.. 23 6..	306 0 0
Fires and lights at Stations .....		500 0 0
Tickets and stationery .....		175 0 0
Stores of all kinds.....		75 0 0
		4,658 0 0
Carried forward.....	£	32,476 0 0

		£	s.	d.
- Brought forward.....		32,476	0	0
<b>5. MERCHANDIZE ESTABLISHMENT.</b>				
(To be stated in similar detail as "Coaching").....		4,000	0	0
<b>6. LOCOMOTIVE POWER</b> (see detailed statement) <i>d.</i>				
202,800 miles passenger trains	Repairs and Depreciation..	4		
62,400 do. Goods & Cattle do.	Coke (average 24s. per ton)..	4½		
	All other charges.....	3½		
265,200 miles.	Per mile....	1s.	13,260	0 0
<b>7. RUNNING CHARGES, REPAIRS, AND DEPRECIATION OF CARRIAGES AND WAGONS.</b>				
202,800 miles passenger trains, 5d. a mile per train	4,225	0	0	
62,400 ditto goods trains, 7½d. do..	1,950	0	0	
		6,175	0	0
<b>8. GUARDS AND BREAKSMEN.</b>				
	Pay. Clothing. Stores. Total. Six Months.			
	<i>s. d. s. d. s. d. s. d. £ s. d.</i>			
8 upper guards, per week	..35 0..2 6..2 0..39 6..			
8 under ditto	..30 0..2 0..1 6..33 6..			
(Equal to 8d. per mile run) ....	73 0..759 4 0			
4 breaksmen.....	28 0..2 0..3 0..33 3..171 12 0			
(Equal to 4d. per mile run)		931	0	0
[Say passenger trains, 1s. 6d. per mile run		56,842	0	0
„ goods do. 1s. 8d. do.]				
Superannuation fund, 5 per cent. on amount of wages and salaries.....	1000 0 0			
Compensation for accidents, losses, law charges, and advertising .....	1500 0 0	2,500	0	0
<b>WORKING CHARGES</b> (ex: Parish Assessments and Mileage Duty), being at the rate of about £1200 per Mile per Ann..		£	59,342	0 0

In addition to the accounts being made out and circulated in the condensed state here shown or explained, they should be further made out in greater *detail*, in the form of a pamphlet, to be supplied to those who may desire it upon payment of a moderate sum.

It will I think be admitted that there really is nothing in a railway account which may not, with the means the companies possess, be calculated **ALMOST TO A FRACTION** *beforehand*; and there is nothing to prevent the *weekly publication of the traffic* being accompanied by a publication of the *working and all other charges affecting the dividend*, for which purpose, if the several companies are willing to furnish (as they are able, or ought to be able to furnish), the necessary materials, I would suggest to the editors of railway papers the substitution of the return shown on the other side, for that which they now present to their subscribers.

1848.										1849.											
[ OFFICIAL TRAFFIC RETURNS. ]										[ OFFICIAL TRAFFIC RETURNS. ]											
* N.B.—Under 'CHARGES' is included Working Charges, Interest on Loans, Preferential Dividends, and every Liability which affects the contingent Dividend.										* N.B.—Under 'CHARGES' is included Working Charges, Interest on Loans, Preferential Dividends, and every Liability which affects the contingent Dividend.											
Index Number.		Rate of Dividend per Cent.		CAPITAL for Dividend.		BALANCE for Dividend.		CHARGES.*		Miles opened.		NAME OF RAILWAY.		Miles opened.		Index Number.		CAPITAL for Dividend.		CHARGES.* for the Six Months.	

There are two modes by which to effect the equalization of the half-year's dividend, assuming the traffic to be proceeding in regular course, over the same extent of mileage. The one is, by making up the traffic returns (I speak of lines in general) to the middle of August and February in each year, instead of the end of June and December; the other, and the preferable one, to my mind, is this—having calculated with care the ENTIRE CHARGES of the year, to proportion them between the two half years in the proportion that the RECEIPTS of the one half year bears, in ordinary cases, to the other half year. I will suppose, for instance, that the system commences in the *latter half* of the year (as it should do), on the 1st of July,—that the traffic is estimated from other lines similarly situated, or from the line itself, if it has been opened long enough—to be, in the latter six months, five-ninths (or any other proportion) of the entire twelve months, the working charges might be debited thereto *in that same ratio*.

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With the hope that this pamphlet, hurriedly written, as, from circumstances, it has been, may yet contain some useful information and practical suggestions,—or, if it does nothing else, that it may, at least, be a means, however partial, of instigating reflection in the right direction; the result of which cannot fail to be, the reduction of railway management to one regular and defined system; the production of a conviction, on directors and shareholders alike, that railways are far more likely to be permanently profitable, if conducted upon liberal principles, than upon the narrow-minded, sneaking, policy, which has, of late, crawled itself into some of our large undertakings; but that, whether the dividends derived from them be large or small in amount, they have a NATIONAL TRUST confided to them, which imposes duties and obligations of a far higher character than the merely “sitting at the receipt of custom.”

